Drinking Water Courses for Renewal Training Credit

@ypotech(1033)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Advanced Oxidation and UV Disinfection(5680)	10/31/2012	Conference/Seminar	120	Introduces water treatment and distribution operators to the operation, uses, and types of advanced oxidation and UV processes including ozonation and UV treatment. Re-approved 8/25/15.
Coagulation and Flocculation(5676)	10/31/2012	Conference/Seminar	180	Focuses on the critical role that particle combining and mixing play in the surface water treatment process and how necessary they are in producing safe drinking water that meets Public Health and US EPA requirements. Re-approved 8/25/15.
Corrosion Control(5679)	10/31/2012	Conference/Seminar	180	Focuses on the improtance of maintaining properly balanced water as well as various types of corrosion control methods for the protection of distribution systems. Re-approved 8/25/15.
Disinfection(5678)	10/31/2012	Conference/Seminar	150	Focuses on the critical role that pathogen inactivation plays in the surface water treatment process. Re-approved 8/25/15.
Membrane Processes(5681)	10/31/2012	Conference/Seminar	120	Introduction to operation, uses, and types of membrane processes including reverse osmosis, nanofiltration and electrodialysis reversal. Re-approved 8/25/15.
Sedimentation and Filtration(5677)	10/31/2012	Conference/Seminar	180	Focuses on the critical role that particle removal plays in the surface water treatment process. Re-approved 8/25/15.
Source Water Issues and Pretreatment(5675)	10/31/2012	Conference/Seminar	150	Outlines the various source water types and the important role they play. Re-approved 8/25/15.
Surface Water Treatment Plant Operations(5674)	10/31/2012	Conference/Seminar	180	At Your Pace Online. Discusses various surface water treatment processes and the role they play in producing safe drinking water that meets Publichealth and US EPA requirements. Re-approved 8/25/15.

360water Inc.(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Accident Investigation(7549)	8/16/2013	Operator's Group Meeting	60	Treatment plant safety reflects literally thousands of hazards. Preparation for all hazards, regardless of their chance of occurring in one?s particular circumstances, is an almost impossible task. However, lementation of an accident investigation program can effectively focus a facility on safety issues. Accident investigation should include thorough investigation, reasoned analysis, and follow-up actions.

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Activated Sludge(7571)	**8/16/2013**	Operator's Group Meeting	**60**	ACTIVATED SLUDGE discusses the activated sludge process as used for domestic wastewater treatment. An overview of the microbiology, system requirements, reactor configurations and operational parameters are discussed.
Basic Safety Fundamentals for the Water & Distribu(7548)	**8/16/2013**	Operator's Group Meeting	**60**	This Operator Education course describes the basic fundamentals, techniques, instruments, and skills needed to work safely around a water distribution system
Biochemical Oxygen Demand and Carbonaceous Biochem(7573)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course explains in a step by step method how to perform the Biochemical Oxygen Demand (BOD) and Carbonaceous Biochemical Oxygen Demand (Carb. BOD) analytical tests, including quality assurance and control measures.
Blood Borne Pathogens(7572)	**8/16/2013**	Operator's Group Meeting	**60**	Working in the wastewater industry may expose a worker to blood borne pathogens. The Code of Federal Regulations, 29 CFR 1910.1030, applies to all occupational exposure to blood or other potentially infectious materials. There is a difference between occupational exposure and exposures incidents. Workplace safety can be enhanced through engineering and work practice controls. Lastly, training about blood bone pathogens can help reduce the risk of harm faced by treatment plant operators and staff.
Confined Space Entry(7550)	**8/16/2013**	Operator's Group Meeting	**60**	In the water & wastewater industry, much of our work takes place in confined spaces. Industrypersonnel perform TV inspections, flow monitoring, and the many other tasks of our profession.Confined space entry (CSE) is hazardous. Confined spaces can kill. Training about CSE can help reducethe risk of harm faced by treatment plant operators and staff
Cross Connection Control(7551)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course describes the basic fundamental techniques, instruments, and skillsneeded for a water distribution operator to control and prevent contamination of potable water systemsdue to cross connections.This course provides the water distribution operator with the basic understanding of how to control andprevent cross connections into potable water supplies. Operators will gain knowledge of the variousdangers associated with potable water corruption and how to avoid possible contamination

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Drinking Water Disinfection(7552)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course discusses drinking water disinfection. Disinfectants, residuals andbyproducts are discussed as are pathogens and indicator organisms
Drinking Water Ion Exchange Softening(7553)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course defines hardness as it relates to drinking water and discusses some of theassociated problems. The ion exchange softening process for drinking water treatment is then explained.Included is a discussion on the general concept, advantages and disadvantages, regeneration process anddesign terms.Upon completion of this operator education course, the operator should understand water hardness andthe general concepts of the ion exchange process for softening.
Drinking Water Precipitation Softening(7554)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course defines hardness as it relates to drinking water and discusses some of theassociated problems. The precipitation softening process for drinking water treatment is discussed withan emphasis on the chemistry of softening.
Fundamentals of Coagulation and Flocculation(7555)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course discusses the fundamentals of the coagulation and flocculation processesas used for domestic drinking water treatment. An overview of tubidity, colloidal particles, coagulants,flocculation and jar testing is included
Hazard Communication Training Course(7556)	**8/16/2013**	Operator's Group Meeting	**60**	This course is provided to give Water/Wastewater employees information on the HazardCommunication Program requirements in OSHA regulation 29CFR1910.1200. As with other OSHAregulations the hazard communication program is a requirement for workplaces with greater than tenemployees. OSHA regulations may not apply directly to your water/wastewater facility but most stateshave adopted these regulations or developed very similar regulations that are at least as stringent as theOSHA regulations. An example of this would be the “State of Ohio, Public Employees Risk ReductionProgram (PERRP)” which adopted the OSHA regulations for protection of the health and safety of state,county and municipal employees

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How to Perform Fecal Coliform Analytical Test for(7574)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course explains in a step by step method how to perform the Fecal Coliformanalytical tests, including quality assurance and control measures. This method?s results are comparedto the Fecal Streptococcus and Total Coliform analytical test results for pollution source information.This method can be used to report Fecal Coliform results as required in wastewater treatment plantNational Pollutant Discharge Elimination System (NPDES) Permits. All needed equipment, chemicals,and glassware is listed. To ensure appropriate reporting on the NPDES Permit operating reports, theGeometric Mean calculation is provided with examples.
How to Perform Total Coliform Analytical Test for (7557)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course explains in a step by step method how to perform the Fecal Coliformanalytical tests, including quality assurance and control measures. This method?s results are comparedto the Fecal Streptococcus and Total Coliform analytical test results for pollution source information.This method can be used to report Fecal Coliform results as required in wastewater treatment plantNational Pollutant Discharge Elimination System (NPDES) Permits. All needed equipment, chemicals,and glassware is listed. To ensure appropriate reporting on the NPDES Permit operating reports, theGeometric Mean calculation is provided with examples.
Introduction to Distribution System Piping and Val(7558)	**8/16/2013**	Operator's Group Meeting	**60**	This Distribution System Piping and Valving introductory course describes basic types of piping usedand valve operation.In this course, the operator will accumulate valuable knowledge and understanding of the various typesof piping and valves used in a water distribution system, their purpose, usefulness and functions
Introduction to Membrane Operations for Small Util(7559)	**8/16/2013**	Operator's Group Meeting	**60**	This course teaches operators about membrane technology and why it offers an attractive alternative toother forms of conventional treatment. Today’s membrane technology offers great improvements interms of fouling resistance, productivity, and reduces capital and operational costs while including anability to meet increasingly stringent regulations
Introductory to the Development of a Quality Assur(7560)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course will enable the operator/analyst to understand and develop a QA/QC plan for a Water and Wastewater Treatment Plant laboratory.

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Leadership and How to Affect Change in Public Orga(7561)	**8/16/2013**	Operator's Group Meeting	**60**	Understand and apply the Forward-Looking Utility Process. This course will apply the Forward LookingUtility Process to a hypothetical upgrade of a utility. Every 3-5 years, most facilities undergo some sortof upgrade that re-engineers how they operate. Leadership is imperative to successfully manage plantupgrades.In this operator education course, the hypothetical upgrade is the installation of new technology in orderto increase efficiency and reduce operating and maintenance costs. The proposed new technology willinclude SCADA, electronic operations and maintenance tools, and online training
Lock Out Tag Out - The Control of Hazardous Energy(7562)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course is designed to help an operator understand how lockout/tagout affectstheir job duties and may assist in the development of a basic lockout/tagout program. This course is inno way intended to be a substitute for the proper development of a lockout/tagout program, includingsite-specific training that is required by OSHA. The writer bears no liability for the content of thiscourse; however, at the time of writing the information is thought to be in compliance with OSHAstandards for lockout/tagout program. This course's intended purpose is to provide continuing educationto water and wastewater operations personnel; however, this course may satisfy the basic annual trainingrequirements as required (depending on jurisdiction) by OSHA standard 1910.147
Math Class 2(7575)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course provides Operating Data, Design Data, and Working Data for anActivated Sludge Plant. Operators will examine the data and work problems relative to the plantoperations.Specific subjects include: calculating Sludge Age, oxygen uptake in wastewater, PH, , photosynthesis,Uptake of CO2 removes Carbonic Acid (HCO3), percent dilution, dissolved oxygen values, percent seedcalculations, fecal coliform, raw wastewater and copper, softening processes, Organic nitrogen,preservation of 0.1N Na2SO3 (sodium thiosulfate), chlorine gas and hypochlorites, wire-to-waterefficiency, meter reading, contact stabilization, conventional activated sludge, and others.
Math Class I(7563)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course provides math calculations for treatment plant operators. Data sheets arenot needed for this course.This course provides step-by-step explanations of what happened and why for the math problems.Steve Safferman, Ph.D., P.E., and Gordon Baugh, B.S., M.A., consulted on this course

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Media Filtration for Drinking Water(7564)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course discusses the gravity filtration process as used for domestic drinkingwater treatment. An overview of filtration media and backwashing are included and filter design isdescribed.
Membrane Unit Operations(7565)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course will explain the basic types of membrane operations available for watertreatment and will focus specifically on Reverse Osmosis and Nanofiltration membrane elements
Microscopic Examination of Activated Sludge(7576)	**8/16/2013**	Operator's Group Meeting	**60**	Upon completion of this operator education course, the operator should be able to purchase and use themicroscope to view microorganisms present in activated sludge, understand their differences,metabolism and correct distribution to achieve optimum wastewater treatment. In addition, the operatorwill understand the importance of the microorganism groups as they relate to determining the food tomicroorganism (f/m) ratio and settling characteristic. Once the operator becomes proficient with theseoperational tests, the wastewater treatment plant effluent will be of higher quality.
Oxygen Measurements(7577)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course discusses oxygen demand measurements: biochemical oxygen demand,chemical oxygen demand, total organic carbon and theoretical oxygen demand. Analytical methods arepresented and the measurements are compared.Upon completion of this operator education course, the operator should understand oxygen demand aswell as the applicable laboratory methods and calculations.
Pretreatment Regulations(7578)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course discusses pretreatment regulations as outlined in the Clean Water Act.The role of the POTW in setting and enforcing pretreatment regulations is addressed as are the differentdischarge standards. Various industry designations and industry responsibilities under the pretreatmentregulations are also discussed.Upon completion of this operator education course, the operator should understand the purpose of thepretreatment regulations and the responsibilities of POTWs and industries
Problems Caused by Roots in Sewers(7579)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course will educate the student about the problems caused by roots in sewers.The operator will understand the nature and scope of root-based nfrastructure issues, types of roots, howroots grow, why roots present a serious threat to pipes, and how chemical root control can solve theseproblems.

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Solids Analysis(7580)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course defines solids as they relate to water and wastewater. Turbidity, fixed,dissolved, volatile and total solids are defined. Analytical methods are presented, as are potential sourcesof error. Sample data is presented and calculations performed. The data is then interpreted. Ways inwhich the data is used to characterize water and wastewater and for unit design and control are alsodiscussed.Upon completion of this operator education course, the operator should understand the sources of solidsin wastewater, the effect of solids on receiving waters, the laboratory method for solids analysis,including applicable calculations, and how the data is used to treat wastewater
System Design and Flow Configurations for Membrane(7566)	**8/16/2013**	Operator's Group Meeting	**60**	There are numerous flow configurations for Reverse Osmosis (RO) treatment systems that allow theoperator to maximize system capability and meet end-use requirements. This course will provide theoperator with an understanding of reverse osmosis membrane system design and some of the variousflow configurations used in RO design to optimize system performance
Terms and Equations for Membrane Operations(7567)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course will introduce the operator to the most common terms and equationsused when discussing membrane treatment. This course is divided into two sections – TheoreticalTerminology and Practical Terminology. The Theoretical Terminology section discusses the equationsand theories used in membrane system design. The Practical Terminology Section discusses terminologyused in the construction and operation of membrane treatment systems
Trickling Filters(7581)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course describes the nature and scope of the trickling filter system as it relates towastewater treatment processes. The trickling filter process is discussed, the features and functionalityof the trickling filter are examined, slime growth management is explained, and equipment start-up andoperation are explained.

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U.S. Water and Wastewater Utility Industry(7568)	**8/16/2013**	Operator's Group Meeting	**60**	The water utility industry in the United States is a mixture of singular and jointly operated water andwastewater entities (some of which might include solid waste), publicly owned, privately owned,publicly owned & privately operated service delivery organizations of vastly varying sizes andorganizational philosophies. How do United States water resource management firms, public utilitiesand government operate? What influence does the federal government have on the industry? What ofstate and local governmental influences? How do financial considerations present themselves in theindustry? What happens when a public entity delegates its water and waster treatment responsibility to aprivate entity? These are questions this operator education course will address.This course is a companion course to “United States Water and Wastewater Utility Industry – Federal,State, and Local Control”.
U.S. Water and Wastewater Utility Industry Federal(7569)	**8/16/2013**	Operator's Group Meeting	**60**	How do federal, state, and local authorities regulate water and wastewater utilities? How are theseauthorities organized and what is their purpose? How do laws, regulations, inspections, and reportingaffect facilities? How does franchising and financial considerations present themselves in the industry?These are questions this operator education course will address.This course is a companion course to United States Water and Wastewater Utility Industry
Ultraviolet Disinfection(7570)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course examines ultraviolet light technology and how UV systems treat drinkingwater. The impact of ultraviolet disinfection on micro-organisms is described. Treatment zones, systemsafety, and costs are examined. Equipment features, functions, and operations are explained.
Wastewater 1 Operator Study Guide(7582)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course presents 22 fundamental subjects for persons who want to take theexamination to become a licensed wastewater treatment plant operator. Conversion factors, chemicalsymbols, and chemical compounds are included in reference tables.This course was provided by a group of operators in southeastern Ohio, particularly Darin Wise andMike Fox from the City of Newark, and Larry Moon from Moon Technical Service. Because of theirefforts, a portion of the revenue generated by this course will benefit operator program

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Wastewater Treatment Theory 1(7583)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course examines general wastewater theory. Broad bases of subjects are coveredincluding treatment processes and equipment, plant operations, and chemical and mechanicalengineering theory.This course is organized according to treatment equipment and processes. The format of the coursepresents a topic, then a question about the topic, a short answer, and then an explanation about the issueat hand.
Wastewater Treatment Theory 2(7584)	**8/16/2013**	Operator's Group Meeting	**60**	This operator education course provides wastewater treatment theory including treatment processes,plant operations, and mechanical technology.Specific subjects include: Imhoff tanks, contact stabilization, velocity in a grit system, evaporation andfiltration, chlorine demand, digested domestic sludge, flow meter, sampling, screen channel velocity,trickling filters, aeration process, facultative conditions, sludge gas, sludge volume index, and others.
Water Quality Management(7586)	**8/16/2013**	Operator's Group Meeting	**60**	This operator training course explains technology-based and water quality-based controls for thereduction of pollutant discharges to receiving waters so that water quality standards can be met. Severalcommonly used terms associated with water quality management are explained. Each of the five phasesof the water quality approach to meeting water quality standards are discussed as is the watershedapproach to Total Maximum Daily Load development. The schedule and estimated costs for listing,developing, and implementing Total Maximum Daily Loads are presented and load allocation is brieflydiscussed.Upon completion of this course, the operator should understand the technology-based and water qualitybasedcontrols for reducing water pollution. The operator should also understand the Total MaximumDaily Load development process and how the need to reduce the pollutant load to a body of water canimpact the discharge from a wastewater treatment plant.

Advanced Valve Technologies, Inc.(1040)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Insertion Valve Installation: 4" through 24"(6829)	**12/5/2012**	Classroom and Hands-on	**120**	Watermains and or service connections; emergency-related; wastewater related. A gate valve will be installed (inserted) into a live water main.

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Alexander Chemical Corporation(43)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Safe Handling of Chlorine, Sulfur Dioxide, Sodium (7032)	1/28/2013	On-line Class	240	Chemical and physical properties; PPE and response; leaks, exposure and first aid; emergency equipment - Kit A and Kit B hands-on demonstration.

American Cast Iron Pipe Co.(1034)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Pipe Design, Manufacture and Installation(5692)	11/2/2012	Operator's Group Meeting	120	Pipe design per AWWA C900, C905, C200; pipe manufacture; open cut and trenchless installations; hydraulic analysis of pipe materials.

American Flow Control(90)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Hydrant & Valve Repairs & Maint in the Field(2911)	1/11/2012	Classroom and Hands-on	120	Hands on repairing hydrants and valves at water systems which are not working or are leaking. All brands and products.
Hydrant & Valve Maintenance Renewal Training(249)	2/1/2012	On-line Class	120	Hydrant valve repairs and maint.
Waterous Training School at the Plant(737)	2/1/2012	Classroom/College	360	First appoved 8/13/02. Classroom and workshop training at the plant where the products are made, tested, to AWWA UCFM Standards. Two-day trip. Hands on: workshop maint, testing, repairs and overall working of hydrants and valves.
Hydrant & Valve Repairs & Maint in the Field 4 hrs(6834)	11/13/2012	Classroom and Hands-on	240	Hands-on hydrant repair

American Trainco(479)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Arc Flash & Electrical Safety with NFPA 70E(4682)	2/1/2012	Classroom and Hands-on	960	Electrical safety course. Electrical hazards, safety-related work practices and maint requirements.
Basic Electricity for the Non-Electrician(4351)	2/1/2012	Classroom and Hands-on	960	First approved 4/19/11. Designed for maintenance technicians and other non-electrical personnel working in industrial plants and commercial buildings. LS
Centrifugal Pumps and Pump Systems(4338)	2/1/2012	Classroom and Hands-on	960	Pumps

Electrical Troubleshooting & Preventive Maint(3501)	2/1/2012	Other	960	Electrical troubleshooting techniques, protection from serious injury, working with real industrial components found in their facility. Will wire basic electrical circuits using wire diagrams, and troubleshoot faults inserted by instructor. Use of phase-rotation meter, Megohmmeter and different types of multimeters and voltage testers. See 3-phase in action and measure its values. Learn what electrical PPE to wear, other safety issues.

American Water College(853)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Advanced Water Math(8630)	7/23/2014	Operator's Group Meeting	480	This course compiles 8 individual lessons into one course. It is highly recommended that students complete all of math book 1 (the basic water math course) prior to taking any math book two courses. The advanced water math course builds upon the principles taught in the basic course to move students into solving more difficult math problems.
Basic Water Math(8605)	7/23/2014	Operator's Group Meeting	660	This course compiles 11 individual lessons into one course. It is designed to give students a basic understanding of the math concepts needed to solve water treatment, distribution system and wastewater treatment math problems.
Calculating Area(8606)	7/23/2014	Operator's Group Meeting	60	This course gives students the knowledge they need to calculate the area of various surfaces as they relate to water industry math problems. It is applicable to water treatment plant operators, distribution system operators, and wastewater treatment plant operators.
Calculating Volume(8607)	7/23/2014	Operator's Group Meeting	60	This course gives students the knowledge they need to calculate the volumes of various shapes as they relate to water industry math problems. It is applicable to water treatment plant operators, distribution system operators, and wastewater treatment plant operators.
Chemical Dose Problems(8608)	7/23/2014	Operator's Group Meeting	60	Correctly dosing chemicals is essential for public health and for treatment plant efficiency. This course teaches operators the concepts needed to correctly calculate chemical dose problems.
Coagulation and Flocculation Problems(8609)	7/23/2014	Operator's Group Meeting	60	Properly maintaining the balance of chemicals in the coagulation and flocculation portions of the treatment process is vital for the operation of a treatment plant. Failing to have the proper balance will cause the whole process to fail.

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Coagulation and Flocculation Review(8610)	**7/23/2014**	Operator's Group Meeting	**120**	Coagulation and Flocculation treatment processes are essential to conventional surface water treatment. In this course, students will learn coagulation chemistry basics, flash mixer concepts, principles of enhanced coagulation, along with other coagulation and flocculation topics.
Corrosion Control Review(8612)	**7/23/2014**	Operator's Group Meeting	**60**	This course reviews the subject of corrosion control as is relates to water treatment.
Corrosion Control Review(8611)	**7/23/2014**	Operator's Group Meeting	**60**	This course reviews the subject of corrosion control as is relates to water treatment.
Cross-Connection Control Review(8644)	**7/23/2014**	Operator's Group Meeting	**60**	This course covers cross-connection control. It is necessary that distribution operators have a working understanding of cross-connection control principles.
Disinfection Problems(8613)	**7/23/2014**	Operator's Group Meeting	**60**	The math problems related to the disinfection process at a treatment plant can be complicated at times. This course shows students how to perform the needed calculations without the headache. Calculations discussed include chlorine dose, chlorine demand, chlorine use in pounds per day, and others.
Disinfection Review(8614)	**7/23/2014**	Operator's Group Meeting	**180**	The disinfection process of water treatment is the process that kills bacteria and other disease causing organisms. This course reviews disinfection principles.
Distribution Disinfection Review(8638)	**7/23/2014**	Operator's Group Meeting	**60**	Disinfection is the process that kills bacteria and other disease causing organisms. This course reviews disinfection principles as they relate to the distribution system.
Filtration Problems(8615)	**7/23/2014**	Operator's Group Meeting	**60**	This course explains how to solve math problems that relate to the filtration process. It covers how to calculate many different types of water treatment plant filter math problems, including level drop rate, flow rate through a filter, backwash water used, and many others.
Filtration Review(8616)	**7/23/2014**	Operator's Group Meeting	**60**	After the coagulation, flocculation and sedimentation processes, filtration is used to filter out suspended particles not settled out during the sedimentation process. This course covers the basics of water filtration.
Flow Conversion Problems(8634)	**7/23/2014**	Operator's Group Meeting	**60**	It is important that distribution system operators know how to convert between different measures of flow rates.
Flow Problems(8617)	**7/23/2014**	Operator's Group Meeting	**60**	Converting between flow rates is an everyday calculation for water treatment plant operators. Knowing how to convert between flow rates is an essential skill for every treatment plant operator.

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Force-Pressure-Head(8618)	**7/23/2014**	Operator's Group Meeting	**60**	It is vital that water industry professionals understand the relationship between force, pressure and water head. In this course, the student will learn how to solve problems involving tank pressure due to water head, as well as force placed on in-ground tanks due to high ground water levels.
Hydrants and Valves Review(8643)	**7/23/2014**	Operator's Group Meeting	**60**	Hydrants and valves are an important part of the distribution system. This course covers a broad range of topics, from different types of hydrants to valve construction.
Laboratory Problems(8619)	**7/23/2014**	Operator's Group Meeting	**60**	This course covers the various types of math problems that may be necessary in a water quality laboratory. These common problems are daily calculations in the lab, and operators, as well as lab personnel should be knowledgeable in the principles required to accurately complete the calculations.
Piping Review(8642)	**7/23/2014**	Operator's Group Meeting	**60**	This course covers piping basics. Students will learn pipe selection considerations, construction material for pipe, and about pipe joints and their applications.
Problem Solving(8620)	**7/23/2014**	Operator's Group Meeting	**60**	Having a method for solving all types of water math problems is helpful to water treatment, distribution system and wastewater system operators. This course teaches a five step approach that can be used to solve water math problems. The method is easy to follow and teaches practical problem solving.
Pumps(8621)	**7/23/2014**	Operator's Group Meeting	**60**	This course teaches students how to calculate pumping horse power problems. The difference between water horse power, brake horse power, and motor horse power are all discussed. Additionally, this course covers how to calculate the operational cost of a pump.
Pumps and Motors Review(8641)	**7/23/2014**	Operator's Group Meeting	**60**	In this course students will learn about pumps and motors and how they are used in the distribution system. This course covers different types of pumps, and different types of motors that are commonly used in the distribution system.
Regulations Review(8622)	**7/23/2014**	Operator's Group Meeting	**60**	In this regulations review course, different regulations that relate to water treatment are discussed. The regulations include the safe drinking water act, the lead and copper rule and disinfection by products rules.
Reservoirs Problems(8624)	**7/23/2014**	Operator's Group Meeting	**60**	This course teaches students how to calculate reservoir volume in acre-ft as well as in MG (Million Gallons). The dosing of a reservoir with copper sulfate for algae control is also discussed.

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Reservoirs Review(8623)	**7/23/2014**	Operator's Group Meeting	**60**	Reservoirs are required to store water prior to it being treated at a water treatment plant. This lesson covers various reservoir topics such as thermal stratification of a reservoir, algae issues and controlling algae with copper sulfate.
Safety Review(8639)	**7/23/2014**	Operator's Group Meeting	**60**	This course covers safety when working as a distribution system operator. It is essential that operators know and can apply trenching safety requirements, confined space requirements, and how to set up a traffic diversion.
Sedimentation Problems(8625)	**7/23/2014**	Operator's Group Meeting	**60**	There are various types of math problems which directly relate to the sedimentation portion of a water treatment plant. The problems discussed in this lesson include detention time, overflow rate, flow velocity and weir loading.
Sedimentation Review(8626)	**7/23/2014**	Operator's Group Meeting	**60**	The sedimentation process is required in water treatment to allow suspended solids to settle out of the water. This course covers the basics of sedimentation.
Source Water Review(8627)	**7/23/2014**	Operator's Group Meeting	**60**	Source water is the beginning of every treatment process. The different topics covered in this source water review course include evaluation of course water, contaminants in source water, the hydrologic cycle, and other topics.
System Design and Layout(8636)	**7/23/2014**	Operator's Group Meeting	**60**	This course covers the design and layout of a distribution system. Students will learn the different types of system designs, and which designs are best for which types of systems.
The Metric System(8633)	**7/23/2014**	Operator's Group Meeting	**60**	Operators should take this course if they do not have a firm understanding of the metric system, and the different units used in water treatment.
Unit Conversions(8628)	**7/23/2014**	Operator's Group Meeting	**120**	This course gives students a basic understanding of how to use unit analysis to solve water treatment math problems. The steps to performing unit conversions are taught from the ground up, including a simple approach to solving any unit conversion type problem.
Velocity and Flow Rate(8629)	**7/23/2014**	Operator's Group Meeting	**60**	Calculating the flow rate of flowing water is an everyday calculation in the water industry. This course will teach students how to calculate both the flow rate, and the velocity of flowing water.
Volume Problems(8635)	**7/23/2014**	Operator's Group Meeting	**60**	This course will teach students how to solve volume problems. The principles learned in this course will allow operators to perform calculations related to trench volume and tank volume problems.
Water Meters Review(8640)	**7/23/2014**	Operator's Group Meeting	**60**	This course covers water meters as they are used in the distribution system.

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Water Quality Review(8646)	7/23/2014	Operator's Group Meeting	60	One of a distribution operator's main duties is maintaining water quality in the distribution system. This course covers water quality basics.
Water Storage Review(8645)	7/23/2014	Operator's Group Meeting	60	There are various reasons why water would need to be stored in a distribution system. This course covers water storage principles.
Water Treatment Review(8631)	7/23/2014	Operator's Group Meeting	720	This course compiles 8 individual lessons into one course. These 8 lessons are intended to be a review for operators in treatment plan operation. It is helpful for both brushing up on treatment topics as continuing education, and as a review course prior to taking a water treatment certification exam. This course reviews all of the topics covered in the course “Water Treatment Plant Operation” that is offered by the Office of Water Programs at CSU Sacramento. The course breaks down the topics covered into easy to understand concepts and principles.
Water Wells Review(8637)	7/23/2014	Operator's Group Meeting	60	In some small water systems, the only source of water is wells. This course will teach students about water wells.
Weight/Volume Relationships(8632)	7/23/2014	Operator's Group Meeting	60	This course covers the relationship between the weight of water, and the volume of water. This lesson will teach the student how to use the relationship between gallons and cubic feet of water to solve math problems in the water industry.

American Water Works Association(27)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Advanced Disinfection of Pipelines & Storage(4077)	2/16/2012	Operator's Group Meeting	120	Advanced Disinfection of Pipelines & Storage
Advanced Metering Infrastructure for Water(4078)	2/16/2012	Operator's Group Meeting	120	Advanced Metering Infrastructure for Water
Applied Mathematics(4778)	2/16/2012	Operator's Group Meeting	180	Applied Mathematics
Basic Mathematics(4081)	2/16/2012	Operator's Group Meeting	420	Basic Mathematics
Chemicals: Best Practice for Quality Assurance(4080)	2/16/2012	Operator's Group Meeting	120	Chemicals: Best Practice for Quality Assurance
Chlorine Gas: An Inherently Safer Technology(4082)	2/16/2012	Operator's Group Meeting	120	Chlorine Gas: An Inherently Safer Technology
Chlorine Gas: Balancing Public Health(4083)	2/16/2012	Operator's Group Meeting	120	Chlorine Gas: Balancing Public Health
Coagulation, Flocculation & Sedimentation Basics(79)	2/16/2012	Operator's Group Meeting	180	Three modules includes course name plus New Regulations and Enhanced Coagulation; exam at end of training; exam with two attempts, if failed no continuing education granted.

Drinking Water Courses for Renewal Training Credit

Disinfection Basics(81)	2/16/2012	Operator's Group Meeting	180	Disinfection; new regulations; exam with two attempts, if failed no continuing educaiton granted.
Disinfection of Pipelines & Storage Facilities(2913)	2/16/2012	On-line Class	120	JB
Distribution Service to Customers(4085)	2/16/2012	Operator's Group Meeting	180	Distribution Service to Customers
Distribution System Materials & Equipment(4086)	2/16/2012	Operator's Group Meeting	180	Distribution System Materials & Equipment
EDP & Personal Care Products Actions/Communication(4087)	2/16/2012	Operator's Group Meeting	120	EDP & Personal Care Products Actions/Communication
Filtration Basics(80)	2/16/2012	Operator's Group Meeting	180	Filtration; membrane processes; and the Interim Enhance Surface Water Treatment Rule and Filter Inspections; exam with two attempts, if failed no continuing educaiton granted.
Fundamentals of Chemistry for Water Professionals(4779)	2/16/2012	Operator's Group Meeting	480	Fundamentals of Chemistry for Water Professionals
GeoScience in Water Aquifers(4100)	2/16/2012	Operator's Group Meeting	120	GeoScience in Water Aquifers
Harmful Algal Blooms: Cyanobacteria(4101)	2/16/2012	Operator's Group Meeting	120	Harmful Algal Blooms: Cyanobacteria
High Bill Complaints?(4102)	2/16/2012	Operator's Group Meeting	120	High Bill Complaints?
High Tech Op Course 1 Process Monitoring/Control(4103)	2/16/2012	Operator's Group Meeting	720	High Tech Op Course 1 Process Monitoring/Control
High Tech Op Course 3 Data Management(4105)	2/16/2012	Operator's Group Meeting	720	High Tech Op Course 3 Data Management
High Technology Tools for Operators(4106)	2/16/2012	Operator's Group Meeting	120	High Technology Tools for Operators
Hydraulics(4107)	2/16/2012	Operator's Group Meeting	480	Hydraulics
J100 RAMCAP Risk & Resilience Management(4108)	2/16/2012	Operator's Group Meeting	1200	J100 RAMCAP Risk & Resilience Management
Key Elements-Maintain Distribution System Quality(4109)	2/16/2012	Operator's Group Meeting	120	Key Elements-Maintain Distribution System Quality
Membrane Technology Conference Showcase(4110)	2/16/2012	Operator's Group Meeting	120	Membrane Technology Conference Showcase
Membranes: Emerging Issues & Technologies(4111)	2/16/2012	Operator's Group Meeting	120	Membranes: Emerging Issues & Technologies
P.E. Pipe in the Field(4117)	2/16/2012	Operator's Group Meeting	120	P.E. Pipe in the Field
Perchlorate & Emerging Contaminants(4118)	2/16/2012	Operator's Group Meeting	120	Perchlorate & Emerging Contaminants
Plant to Tap: The Importance of Disinfection(4119)	2/16/2012	Operator's Group Meeting	120	Plant to Tap: The Importance of Disinfection
Pump Maintenance(4120)	2/16/2012	Operator's Group Meeting	120	Pump Maintenance
PVC Pipe in the Field(4121)	2/16/2012	Operator's Group Meeting	120	PVC Pipe in the Field

Drinking Water Courses for Renewal Training Credit

Quagga/Zebra Mussel Control(4122)	**2/16/2012**	Operator's Group Meeting	**120**	Quagga/Zebra Mussel Control
Residuals Management & Disposal(4123)	**2/16/2012**	Operator's Group Meeting	**120**	Residuals Management & Disposal
Setting Rate in a Tough Economy(4124)	**2/16/2012**	Operator's Group Meeting	**120**	Setting Rate in a Tough Economy
The Fundamentals of DW Regulations - 1(4125)	**2/16/2012**	Operator's Group Meeting	**60**	The Fundamentals of DW Regulations - 1
The Fundamentals of DW Regulations - 2(4126)	**2/16/2012**	Operator's Group Meeting	**60**	The Fundamentals of DW Regulations - 2
Total Coliform Rule(4127)	**2/16/2012**	Operator's Group Meeting	**120**	Total Coliform Rule
Trenchless Technology Application(4128)	**2/16/2012**	Operator's Group Meeting	**120**	Trenchless Technology Application
Water Main Installation(4129)	**2/16/2012**	Operator's Group Meeting	**180**	Water Main Installation
Water Shortages: Finding a Solution(4130)	**2/16/2012**	Operator's Group Meeting	**120**	Water Shortages: Finding a Solution
Water Storage Tanks O&M(4131)	**2/16/2012**	Operator's Group Meeting	**120**	Water Storage Tanks O&M
Water System Mechanical Equipment(1381)	**2/16/2012**	Operator's Group Meeting	**120**	Water System Mechanical Equipment
Water Treatment Operator Level 1 The Basics(4132)	**2/16/2012**	Operator's Group Meeting	**3600**	Water Treatment Operator Level 1 The Basics
Water Treatment Operator Level 2(4133)	**2/16/2012**	Operator's Group Meeting	**3600**	Water Treatment Operator Level 2
Water Treatment Operator Level 3(4134)	**2/16/2012**	Operator's Group Meeting	**3600**	Water Treatment Operator Level 3
High Tech Op Course 2 Applications & Tools(4104)	**12/16/2012**	Operator's Group Meeting	**720**	High Tech Op Course 2 Applications & Tools
Safety First: Confined Spaces(7095)	**2/20/2013**	Computer Based Training	**9**	Confined spaces can become dangerous or even life-threatening in several ways. This video teaches employees the importance of following an entry permit system, how to identify a confined space and its possible dangers, proper ventilation techniques, and personal protective equipment.
Safety First: Confined Spaces–Alternative Procedur(7111)	**2/20/2013**	Computer Based Training	**20**	This DVD teaches viewers the procedures they must use when planning and executing non-permit or alternative procedure confined-space entries.
Safety First: Elevated Work Surfaces/Fall Protecti(7106)	**2/20/2013**	Computer Based Training	**15**	Employees who work on elevated surfaces should be trained in safety procedures and fall-arrest equipment. This video covers environmental conditions, electrical and mechanical hazards, guardrail specifications, use of roped-off areas during construction, and safety systems found on tanks and towers. It explains the proper use of full-body harnesses, ladders, scaffolding, working on rooftops, large storage tanks, and water towers.

Drinking Water Courses for Renewal Training Credit

Safety First: Eye Protection(7103)	**2/20/2013**	Computer Based Training	**15**	About 1,000 people injure their eyes each day on the job. Safety experts say at least 90% of them could avoid injury with the proper eye protection equipment and training. This video instructs in eye safety procedures and equipment. Employees learn about eye hazards such as chemicals, gases, heat and light, flying fragments from machinery, and infrared radiation. The video covers the use and maintenance of goggles, safety glasses, face shields, and filtering lenses. It explains safety certification, equipment safety checks, emergency first aid and eye-washing stations.
Safety First: Forklift Safety(7098)	**2/20/2013**	Computer Based Training	**12**	OSHA requires that forklift operators receive appropriate training in operation and maintenance of forklifts. This training video provides an excellent overview of safe forklift operation, including weight balance, driving, lifting, safety checks, and more.
Safety First: Hazard Communications(7107)	**2/20/2013**	Computer Based Training	**13**	This video provides the basic information you need to develop a customized Hazard Communications Program that meets OSHA's Hazard Communication Standard. Viewers learn the five parts of a Hazard Communication Program: Chemical Inventory, Container Labeling, Material Safety Data Sheets, Employee Training, and Written Procedures.
Safety First: Hazardous Spill Containment and Clea(7110)	**2/20/2013**	Computer Based Training	**20**	Water treatment plants use chemicals for softening, coagulation, disinfection, scale and corrosion control, and taste-and-odor control. These chemicals have proven to be valuable tools, but they come with a risk. The effects of exposure range from mild to fatal. Containment and cleanup are critical in the event of a spill or leak. This program discusses many aspects of containment and cleanup, including hazardous chemical determination; Material Safety Data Sheets; personal protective equipment; safe transport, handling, and storage of hazardous chemicals; training of employees; emergency response; and followup to spill incidents.

Drinking Water Courses for Renewal Training Credit

Safety First: Heavy Equipment Yard Practices(7108)	**2/20/2013**	Computer Based Training	**15**	Almost every water and wastewater utility has a pipe yard containing pipe, fire hydrants, valves, and other heavy materials and equipment used every day. Safety must be stressed when employees are working around these potentially dangerous items, as well as around the forklifts and other equipment used to move them. Personal protection, lifting systems, chaining and slinging, storage, loading and unloading are covered in this program.
Safety First: Hot Work(7105)	**2/20/2013**	Computer Based Training	**15**	Cutting torches, arc welders, soldering irons, and grinders produce high electrical currents, flames, sparks, slag, hot fragments, smoke, ultraviolet rays, and toxic fumes. This training video explains the basics of working safely, including personal protective equipment, work area safety, toxic gases, and compressed gas safety.
Safety First: Indoor Crane Operation(7104)	**2/20/2013**	Computer Based Training	**14**	Do your employees know the four, ironclad rules of indoor crane safety: inspections, training, communication, and technique? If you're not sure, show them Safety First: Indoor Crane Operation. Employees will learn how to inspect indoor cranes for proper operation understand the design and operation of indoor cranes see proper rigging and lifting techniques in action understand how to balance a load and make sure it is safe to lift learn standard hand signals for communication between the crane operator and the rigger watch special techniques for safely lifting chlorine containers and other types of loads
Safety First: Laboratory Safety for Water Professi(7097)	**2/20/2013**	Computer Based Training	**18**	Perfect for both new employee orientation and continuing safety training, the video covers the handling and storage of chemicals, personal protective equipment, lab safety features, lab equipment, and safe lab procedures.

Drinking Water Courses for Renewal Training Credit

Safety First: Lockout Tagout for Water Distributio(7109)	**2/20/2013**	Computer Based Training	**15**	Lockout/tagout is one of the most important safety procedures that water operators need to know. Needless injuries and deaths happen year after year, either because lockout/tagout was improperly performed, or because it was not communicated to all parties who should have known. This video provides a basic overview of lockout/tagout procedures, including why equipment must be locked and tagged when taken out of service, who performs the procedure, what materials and equipment are needed, notification, and record keeping.
Safety First: Lockout Tagout of Electrical Equipme(7119)	**2/20/2013**	Computer Based Training	**13**	Viewers will learn: What employers must do to comply with OSHA's lockout/tagout rules Lockout/tagout program guidelines for water utilities. Type of lockout and tagout devices. Communication procedures to notify affected employees. Use of shutdown approval forms. Shutting off power at the source. Shift-worker protocol Removal of lockout/tagout devices Powering up after lockout/tagout work is finished. Documentation Ongoing employee training
Safety First: Night Work(7113)	**2/20/2013**	Computer Based Training	**15**	Night shift workers can be exposed to additional dangers as they work outdoors. Help them stay safe with this important video training. The DVD covers such topics as work site lighting, traffic control, high-visibility clothing, and safety precautions around open filter beds and remote water tanks. Aurora Platinum Award Winner.
Safety First: Personal Protective Equipment(7115)	**2/20/2013**	Computer Based Training	**15**	We can avoid most accidents on the job if we concentrate on the basics. Nothing is more basic than the equipment we wear to protect us on the job–personal protective equipment, or PPE. This DVD provides an overview of OSHA-required PPE for water system workers. Excellent for new water system employees, the program presents the essential knowledge employees need to know about the specialized clothing and equipment they must use to protect eyes, face, head, hearing, respiratory tract, body, and extremities from potentially hazardous conditions.

Drinking Water Courses for Renewal Training Credit

Safety First: Pipe and Street Saws(7123)	**2/20/2013**	Computer Based Training	**15**	Operators using specialized power saws to cut pipe and asphalt or concrete pavement must be trained in the safe use of these saws. This DVD demonstrates proper use of pipe and street saws. The video also covers saw types, specialized blades, personal protective equipment, equipment inspection, and the importance of following saw-manufacturers' instructions.
Safety First: Pipe Handling Safety for Field Crews(7099)	**2/20/2013**	Computer Based Training	**15**	Injuries can occur when workers are moving heavy water distribution system components - pipe, fire hydrants, pumps, valves, etc. Not only are the individual parts potentially dangerous, so is the heavy equipment used to move these materials. Teaching workers how to avoid injury by using proper safety procedures is paramount especially for loading, unloading, and installing pipe with heavy equipment, including front loaders and cranes.
Safety First: Process Safety Management DVD(7100)	**2/20/2013**	Computer Based Training	**15**	Process Safety Management training is required by OSHA to mitigate the chance of highly hazardous chemicals (toxic, reactive, or flammable) accidentally being released at a workplace. This DVD provides a systematic approach to evaluating the chemical hazards associated with water treatment processes. Any facility that uses, stores, manufactures or handles hazardous chemicals should have a comprehensive program integrating technologies, procedures, and management practices to prevent or minimize contamination or catastrophic occurrence.
Safety First: Protecting Against Bloodborne Pathog(7112)	**2/20/2013**	Computer Based Training	**13**	This video provides a quick and effective way to train water utility employees on preventing occupational exposure to bloodborne diseases.
Safety First: Respirator Safety(7101)	**2/20/2013**	Computer Based Training	**16**	Water utility employees may come in contact with airborne hazards like fumes, dusts, vapors, and gases, or they must enter oxygen-poor environments such as confined spaces. Do your employees fully understand when an air respirator may be necessary and which type of respirator will provide protection? This video tells your employees what they need to know about air respirators: different types of respirators used by water utilities, when to use each one for protection against various hazards, and how to use them properly.

Drinking Water Courses for Renewal Training Credit

Safety First: Safe Handling of Compressed Gas in t(7117)	**2/20/2013**	Computer Based Training	**15**	With nearly 200 different kinds of materials shipped, stored and used in compressed gas cylinders today, the need to understand safe handling practices has never been more essential. This training DVD provides current OSHA and DOT regulations and gives employees an instant refresher course on safe compressed gas handling procedures, including: the five basic parts of gas cylinders and their purposes safe handling basics and the potential consequences of mishandling personal protective equipment transporting cylinders visual inspections labels and markings storage and handling
Safety First: Safe Handling of Water Treatment Che(7120)	**2/20/2013**	Computer Based Training	**18**	Handling water treatment chemicals can be an extremely hazardous job. It is important to know how to properly handle these chemicals. This video looks at some of the most common water treatment chemicals and discusses how they are stored, proper personal protective equipment, and emergency procedures.
Safety First: Safety and Security Practices for Co(7096)	**2/20/2013**	Computer Based Training	**20**	Water utility managers need to make sure that outside contractors understand and will follow utility safety and security policies and procedures. This video discusses safety communications between utility management and outside contractors.
Safety First: Seasonal Safety(7102)	**2/20/2013**	Computer Based Training	**14**	Utility field employees may work in weather ranging from unbearably hot to freezing cold. This video teaches employees how to protect themselves from heat stress illness, heat exhaustion, dehydration, hypothermia, and frostbite.
Safety First: Slips, Trips, and Falls(7122)	**2/20/2013**	Computer Based Training	**14**	Slips, trips, and falls are the most common types of workplace accidents. Most of these types of accidents are avoidable by using common sense and being aware of surroundings. This DVD shows workers how to keep areas as free as possible of hazards, choose proper shoes and safety gear, and properly use equipment like fall arrest systems, ladders, and scaffolding.
Safety First: Trenching and Excavation(7118)	**2/20/2013**	Computer Based Training	**10**	A great orientation or refresher course for anyone who works in and around site excavations, this training DVD covers planning, soil types and soil stability, trench wall support systems, and rules for working in and around an excavation.

Drinking Water Courses for Renewal Training Credit

Safety First: Water Utility Security(7124)	**2/20/2013**	Computer Based Training	**15**	Proper security ensures the safety of utility employees and the public water supply. This video analyzes security issues at the treatment plant, at remote locations, and on construction or excavation job sites. Learn successful strategies for preventing vandalism and theft, dealing with bomb threats, and disaster planning.
Safety First: Work Area Traffic Control(7116)	**2/20/2013**	Computer Based Training	**15**	Vehicle traffic can be managed to reduce both danger to workers and inconvenience to drivers. This video shows field crews how to control traffic flows around the work site. It covers placement of speed limit signs, barricades, cones, stop signs, and other traffic-control equipment. The Five Zone Method is explained, as is public notification and access for emergency vehicles and pedestrians.
Safety First: Working With Hazardous Materials(7114)	**2/20/2013**	Computer Based Training	**10**	For water utility employees, working with hazardous materials is part of the job. Learn essential information on how to identify and inventory all hazardous chemicals in the workplace, understand and use Material Safety Data Sheets, and develop a written hazard communication program.
Safety First: Workplace Hearing Loss(7121)	**2/20/2013**	Computer Based Training	**14**	Noise-induced hearing loss on the job is preventable, but once acquired, hearing loss is permanent and irreversible. This DVD provides an overview of the causes of work-related hearing loss and prevention. Viewers learn the specific types of damage to hearing caused by both a sudden intense noise and by chronic exposure to noise over time. The DVD also covers noise measurement, noise control, hearing tests, and hearing protection devices.
Instrumentation(7903)	**11/8/2013**	Operator's Group Meeting	**360**	This course is designed to cover the basics of process monitoring via SCADA for raw water measurements, control of water treatment and the distribution system using sensing devices. Students learn how to describe the requirements of SCADA System components and analyze illustrated device descriptions to identify sensors, analyzers and control devices.

Drinking Water Courses for Renewal Training Credit

Revised Total Coliform Rule(7904)	**11/8/2013**	Operator's Group Meeting	**240**	The course is made up of four modules which provide an overview of the Revised Total Coliform Rule and an introduction to the assessment process that underlies the revised rule framework. The modules describe issues to consider in assessing sample sites, distribution system operation and maintenance, as well as other considerations. The student will be familiarized with Revised Total Coliform Rule framework, be able to explain Tier 1 and 2 Assessments and facilitate preparation for compliance with Revised TCR.
Underground Utility Systems Level 2(7906)	**11/8/2013**	Operator's Group Meeting	**3600**	This is a class that is facilitated by an instructor, and it's paced over the course of 5 weeks. Students are expected to complete 12 hours of online learning activities each week. Activities include presentations, videos, interactions, quizzes, discussion boards, weekly tests, homework assignments, and a live meeting. These activities can be accomplished by the student at their most convenient time during the week. Students will also be able to interact with the instructor and other water professionals from across the United States and internationally on a regular basis, and may earn 6 CEUs* for the completion of this program. Level 2 is for the person with a couple years experience. More details on maintenance like repair of inflow, infiltration, meters, disinfection, pressure tests and valve maintenance will be included. Intermediate math and chemistry skills will be included. Some basic concepts with planning work and more advanced safety is required. More on pumps and electricity are included.

Drinking Water Courses for Renewal Training Credit

Underground Utility Systems Level 3(7907)	**11/8/2013**	Operator's Group Meeting	**3600**	This is a class that is facilitated by an instructor, and it's paced over the course of 5 weeks. Students are expected to complete 12 hours of online learning activities each week. Activities include presentations, videos, interactions, quizzes, discussion boards, weekly tests, homework assignments, and a live meeting. These activities can be accomplished by the student at their most convenient time during the week. Students will also be able to interact with the instructor and other water professionals from across the United States and internationally on a regular basis, and may earn 6 CEUs* for the completion of this program. Course 3 is for supervisors and those with more training. Included are topics on corrosion, corrosion prevention, pumps and electricity, odor control, FOG control, SCADA and work orders are included. The student will understand maintenance needs, pump and electrical maintenance needs and gain knowledge of planning work activities.
Nitrification in the Distribution System(8551)	**1/1/2014**	Video	**23**	Nitrification in the Distribution System
WSO: Disinfection By-products DVD(8436)	**1/1/2014**	Video	**20**	New! Covers the types of disinfectants used in water treatment.
WSO: Distribution Systems DVD(8439)	**1/1/2014**	Video	**25**	Basic knowledge about city water distributiion systems.
WSO: Flushing and Cleaning DVD(8441)	**1/1/2014**	Video	**16**	Basic flushing and cleaning equipment and procedures.
WSO: Membrane Technology DVD(8432)	**1/1/2014**	Video	**19**	Operating principles of microfiltration, ultrafiltration, nanofiltration, and reverse osmosis.
WSO: Ozone and UV DVD(8431)	**1/1/2014**	Video	**15**	Use of ozone in water drinking treatment.
WSO: SCADA and Instrumentation DVD(8438)	**1/1/2014**	Video	**20**	Basic principles of automation, control instrumentation, and SCADA in water treatment and distribution.
WSO: Centrifugal Pumps DVD(8440)	**1/1/2014**	Video	**24**	Describes advantages and disadvantages of centrifugal pumps operating principles and maint, and record keeping and trouble shooting.
WSO: Disinfection Startegies DVD(8429)	**1/1/2014**	Video	**27**	Basic disinfection strategies, advantages and disasadvantages of each, DBPs, waterborne diseases.
WSO: Filtration DVD(8428)	**1/1/2014**	Video	**18**	Covers the basic equipment, operation and maint of conventional water filtration plants.
WSO: Jar Testing DVD(8430)	**1/1/2014**	Video	**35**	Jar testing equipment, procedures, factors that can throw off results, temperature, daily chem doses and pH levels.
WSO: Source Water Protection DVD(8434)	**1/1/2014**	Video	**23**	Discusses general source water protection with a focus on point and non-point pollution

Drinking Water Courses for Renewal Training Credit

WSO: Turbidity Measurement and Particle Counting D(8433)	**1/1/2014**	Video	**17**	How turbidimeters and particle counters work and demonstrates their use, operation and calibration.
WSO: Water Loss Control DVD(8442)	**1/1/2014**	Video	**16**	Information for active leak-detection and repair program.
WSO: Water Sources DVD(8437)	**1/1/2014**	Video	**25**	Thorough overview of water sources for city drinking water systems.

Drinking Water Courses for Renewal Training Credit

Maintaining and Achieving RTCR Compliance for Smal(9404)	**4/1/2015**	Computer Based Training	**180**	This eLearning course focuses on 4 major areas needed by small systems to maintain and achieve compliance with the Revised Total Coliform Rule; including when and how to conduct the RTCR assessment, evaluation of sampling procedures, source water treatment assessments and evaluation of distribution system operations and maintenance practices on coliform occurrence. The course is divided into four modules. The first module introduces the RTCR by describing the latest changes and impact to operators and their water systems. It demonstrates when and how to perform level 1 and level 2 assessments and provides examples and opportunities to apply the new learning. The second module covers sample site assessment which includes determining if deficiencies exist in distribution system practices that may lead to inaccuracies in sample collection, possible microbial contamination, and data management procedures. The third module illustrates the major elements of an assessment of sources of supply and treatment in the context of the RTCR. The fourth and final module illustrates the major elements of an assessment of distribution system operations and maintenance practices in the context of the RTCR. This eLearning course is made possible through a USEPA grant for small systems training in conjunction with AWWA's training partner, the Rural Community Assistance Partnership. The EL219 eLearning course is FREE to operators who work with small water systems serving populations under 10,000. AWWA membership is not required; however, registration is required. To register for free, select Add to Cart, then go to Check Out. Registrants will be directed to the Login/Register page. Select the REGISTER button to create a free account. Upon successful completion of the course, registrants will receive a certificate of completion to file with their states for continuing education credits.

Drinking Water Courses for Renewal Training Credit

Financial Sustainability For Small Systems(9813)	**6/1/2015**	Operator's Group Meeting	**120**	This eLearning course is made possible through a USEPA grant for small systems training in conjunction with AWWA's training partner, the Environmental Finance Center.The course is divided into three modules. The first module describes an enterprise fund and explains how to set-up, manage, and use those funds. The second module covers enterprise fund revenues including their origin, what they should cover, and how to set up rates to cover expenses. The third module illustrates the major elements of what it takes to provide safe water to protect public health, including major regulations and their role in water quality, common operational questions managers should address, and how to involve operators in management decisions.
Treatment for Common Secondary Maximum Contaminant(9842)	**9/30/2015**	Operator's Group Meeting	**120**	Treatment for Common Secondary Maximum Contaminants AWWA webinar
2015 Water Infrastructure Conference WIC15(9722)	**10/13/2015**	DVD	**1**	Bethesda, Maryland. Workshops; technical sessions; education session. No credit for time spent viewing conference/meeting exhibits. Up to 28 Renewal Training Credits (contact hours). Attendees must submit operator training form to IEPA CAS Section with documentation of attendance from AWWA WIC15 event for evaluation of credit.Knowing that the water industry may look different in 50 years, how can water utilitiesposition themselves to embrace upcoming changes? Challenges posed by climatechange, population growth, increased water consumption, increased urbanization andthe need for vigilance against man-made and natural threats place increasing demandson water and wastewater utilities.Attendees, presenters, and exhibitors will come together for four days to discussessential water infrastructure planning, reinvestment strategies, critical infrastructureprotection through emergency preparedness planning, and the application ofheightened physical security and cybersecurity measures.Dedicated to Total Water Solutions®, AWWA focuses this conference on solutions forwater utility asset and infrastructure challenges, offering a thought-provoking OpeningGeneral Session, a comprehensive technical program with interactive panel discussions,and a lively Exhibit Hall.
AWWA EFC Board and Staff Communications Webinar(9850)	**11/3/2015**	Operator's Group Meeting	**1**	regarding important communications

Drinking Water Courses for Renewal Training Credit

2015 Water Quality Technology Conference and Expo(9745)	**11/15/2015**	DVD	**1**	Up to 34 Renewal Training Credits (contact hours). Attendees must submit operator training form to IEPA CAS Section with documentation of attendance from AWWA WIC15 event for evaluation of credit.Drinking water quality is a global issue that requires constant research, evaluation, and scrutiny.Water professionals from around the world come to AWWA's Water Quality Technology Conference &Exposition to benefit from the collective knowledge of industry leaders. Attend this important eventto participate in an unparalleled technical program offering attendees opportunities to discover newfacets of the water quality field.This year, the exhibit hall will showcase the latest in water quality technology and services with morethan 70 booths and dedicated exhibit hall hours. As an attendee, you will enjoy extensive networkingopportunities, poster sessions, attendee luncheons, refreshment breaks, and receptions—all takingplace inside the exhibit hall!

Approved Environment Inc.(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Environment and Health in Developing Countries(9669)	**6/22/2015**	Operator's Group Meeting	**60**	A significant proportion of overall environmental disease burden can be attributed to relatively few key areas of risk:Unsafe waterPoor sanitation and hygieneIndoor smoke – primarily from the use of solid fuels in domestic cooking and heatingMalariaUrban air pollution generated by vehicles, industries, and energy productionRoad traffic injuries Lead exposureClimate change impactsUnintentional poisonings associated with excessive exposure to, and inappropriate use of, toxic chemicals and pesticides present in occupational and/or domestic environmentsScientific assessment tools
H1N1 Flu(9672)	**6/22/2015**	Operator's Group Meeting	**60**	2009 H1N1 (sometimes called "swine flu") is a new influenza virus causing illness in people. This new virus was first detected in people in the United States in April 2009. This virus is spreading from person-to-person worldwide, probably in much the same way that regular seasonal influenza viruses spread. On June 11, 2009, the World Health Organization (WHO) signaled that a pandemic of 2009 H1N1 flu was underway.

Drinking Water Courses for Renewal Training Credit

Septic Systems and Their Maintenance(9671)	**6/22/2015**	Operator's Group Meeting	**60**	Septic systems applications and their usage Septic systems description and operation Septic systems design and requirements Legal requirements to operate a septic system Septic systems maintenance Regular pumping Using chemicals Alternatives to the conventional septic system
Sequencing Batch Reactors (SBRs)(9667)	**6/22/2015**	Operator's Group Meeting	**60**	SBRs system description SBRs cycles: Fill cycle React cycle Settle cycle Decant cycle Idle cycle Advantages of SBRs PLC (programmable logic control) system description Cost analysis Equipment maintenance
Waste Disposal Management(9668)	**6/22/2015**	Operator's Group Meeting	**60**	3 Methods of Waste Disposal: 1 – Landfill: Description Operation Impacts Reclaiming Material Alternatives 2– Incineration: Process description and usages Advantages Disadvantages Health hazards of incineration 3 – Recycling Process description Benefits of recycling over its costs ISO standards related to recycling

Approved Environment, Inc.(658)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Chemistry 1(3959)	**7/6/2010**	Operator's Group Meeting	**60**	what is water? how is a water molecule built up? how much does a water molecule weigh? in what states (phases) can water be found? what happens if water changes phases? why does ice float on water? which substances are water soluble? what is hard water? which physical and chemical properties does water have?
Chemistry 2(3960)	**7/6/2010**	Operator's Group Meeting	**60**	history of the periodic table, aarrangement of elements in the periodic table, atomic number and atomic mass, isotopes, electron configurations of atoms, reaction types, redox, oxidizing and reducing agents, examples of redox reactions, displacement reactions
Membrane Technology(3961)	**7/6/2010**	Operator's Group Meeting	**60**	membrane systems, process management of membrane filtration systems, dead-end filtration and cross-flow filtration, choosing a certain of membrane system, types of membranes, pressure membrane systems, microfiltration and ultrafiltration, diffusion membrane systems, nanofiltration and reverse osmosis
Disinfection by Chlorine(4369)	**5/11/2011**	Operator's Group Meeting	**60**	introduction: what is water disinfection? disinfection with chlorine, reaction of chlorine gas and sodium hypochlorite with water, chlorine by-products, process optimization and handling chlorine residuals, laboratory analysis to determine chlorine residual and the effectiveness of disinfection, safety
Maintenance I/Boiler Feed Water(7089)	**2/19/2013**	Operator's Group Meeting	**60**	Improving water quality in boilers and maint. of boiler sytems
Drinking Water Production(7433)	**7/10/2013**	Operator's Group Meeting	**60**	drinking water quality standards, drinking water production from surface water, pre-filtration, addition of chemicals, natural filtration, disinfection, fine filtration, preservation and storage
Filtration(7443)	**7/10/2013**	Operator's Group Meeting	**60**	purpose of filtration, systems used, gravity filters, rapid sand filters, inert media pressure filters, cross-flow membrane filtration, microfiltration, ultrafiltration, nanofiltration
Laboratory Procedures for Plant Control(7453)	**7/10/2013**	Operator's Group Meeting	**60**	laboratory test procedures and analysis, settleable solids test, settleability test, total suspended solids test, total sludge solids, mixed liquor volatile suspended solids, sludge age and mean cell residence time
Laboratory Terms, Equipment, and Sampling(7448)	**7/10/2013**	Operator's Group Meeting	**60**	definitions, laboratory equipment, standard solutions, laboratory reagents, grade A water, sampling, types of sampling, preservation of samples, locations of sampling, spectrophotometer
Maintenance II/Pumps(7452)	**7/10/2013**	Operator's Group Meeting	**60**	types of pumps, making your pump last, checklist, pump problems, pump storage tips

Drinking Water Courses for Renewal Training Credit

Parasites and Pathogens(7436)	**7/10/2013**	Operator's Group Meeting	**60**	significant disease agents found in water, transmission of infectious diseases, food borne/water borne bacterial diseases, food poisoning, soil borne bacterial diseases, viral diseases, antiviral vaccines and drugs, protozoan diseases, helminthic diseases
Safety(7449)	**7/10/2013**	Operator's Group Meeting	**60**	workplace hazard assessment, adequate training for all workers, types of hazards, material safety data sheets, plant safety and good housekeeping
The Microlife(7437)	**7/10/2013**	Operator's Group Meeting	**60**	classification of microorganisms, autotrophs and heterotrophs, aerobes, anaerobes, anoxic, fermenters, microscopic examination, slides preperation and presentation
UV Disinfection(7434)	**7/10/2013**	Operator's Group Meeting	**60**	effect of ultraviolet, how UV disinfection works, UV-C production, ultraviolet dose/destruction relationship, UV system module, UV air application
Ammonia, pH and Chlorine(7462)	**7/11/2013**	Operator's Group Meeting	**60**	nitrogen and water, reaction mechanisms, environmental impact and health effects, water purification technologies, measuring ammonia nitrogen, ammonia selective electrode method, methods to measure pH, hydrogen ion properties, acids and bases, effects of changes in pH on freshwater ecosystems, applications of chlorine
Biochemical Oxygen Demand Concept and Treatment(7457)	**7/11/2013**	Operator's Group Meeting	**60**	definitions, sources of biochemical oxygen demand, BOD impace on receiving water, stages of biochemical oxygen demand, aerobes role in removing BOD, removing BOD by using chemicals
BOD, CO and COD(7463)	**7/11/2013**	Operator's Group Meeting	**60**	biochemical oxygen demand, purpose, description, calculations, dissolved oxygen, purpose, description, procedure, chemical oxygen demand, purpose, description
Odor Control(7459)	**7/11/2013**	Operator's Group Meeting	**60**	need for odor control, biological generation of odor/hydrogen sulfide generation, odor identification and measurement, odor complaints, solutions to odor problems, odor removal towers, ozoneation, good housekeeping, odor control facilities
Ozone Disinfection(7456)	**7/11/2013**	Operator's Group Meeting	**60**	ozone for water and air treatment, occupational exposure limits, ozone properties, ozone generation, ozone injection techniques, how does ozone work? what is the half-life of ozone? is ozone harmful and what is the effect? measuring ozone, safety
Settleability and Loss of Solids(7458)	**7/11/2013**	Operator's Group Meeting	**60**	solids/liquid separation, factors affecting solids settleability, systems remove solids, settling tank design and efficiency, loss of solids troubleshooting systems, precipitation, coagulation, and flocculation

Drinking Water Courses for Renewal Training Credit

Multiple choice Questions(7468)	7/13/2013	Operator's Group Meeting	60	Treatment operation questions Troubleshooting questions Process control questions Activated sludge microorganisms questions Management questions Laboratory questions Maintenance questions Pumps questions

Aqua Illinois(306)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
NSC Online Defensive Driving(9584)	2/1/2015	Operator's Group Meeting	300	Employees will learn to reduce the risk of collision by anticipating dangerous situations, despite adverse conditions or the mistakes of others.

At Your Pace Online(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Basic Electrical Concepts for Water	4/14/2014	Operator's Group Meeting	120	Basic Electrical Concepts for Water Operators is a course that covers the fundamental electrical principles that water operators need in their day-to-day operations.
Distribution System Water Quality Issues(8293)	4/14/2014	Operator's Group Meeting	150	Distribution System Water Quality Issues is a course designed to introduce the many issues that are present in order to achieve and maintain a safe and high quality water supply in a a varied and widespread distribution system.
Groundwater Wells(8294)	4/14/2014	Operator's Group Meeting	150	Groundwater Wells is a course designed to introduce and cover the basic components of and operation of groundwater wells and the fundamentals of maintaining safe drinking water from this types of water source.
Meters, Valves and Hydrants(8295)	4/14/2014	Conference/Seminar	180	Meters, Valves and Hydrants is a course that focuses on the vital roles that meters, valves and hydrants play in the delivery of safe drinking water to the public.
Pipelines(8296)	4/14/2014	Operator's Group Meeting	180	Pipelines is a course that focuses on the all the components of the pipelines that deliver water, including: pipes, meters, valves, hydrants, pumps and motors, horsepower and SCADA systems. It also covers the EPA groundwater rules and distribution system water quality issues.

Drinking Water Courses for Renewal Training Credit

Pumps and Motors(8297)	4/14/2014	Operator's Group Meeting	150	Pumps and Motors is a course that details the types, components of and the proper maintenance steps for water pumps and the motors that drive them.
Storage Tank Facilities(8298)	4/14/2014	Conference/Seminar	120	Storage Tank Facilities is a course that focuses on the types of storage facilities, functions of and maintenance of the tanks that store water for efficient delivery to the public.
Water Distribution System Operation Overview(8299)	4/14/2014	Operator's Group Meeting	270	Water Distribution System Operation Overview is a course designed to give an overview to water treatment and distribution operators of water distribution components. Including: Pipeline operations, Meters, Valves, Hydrants, Pumps and Motors, Groundwater wells, EPA Groundwater rules and Water Quality issues in a distribution system.

Awwa-webcast(438)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Lead and Copper Rule(2767)	12/12/2007	Operator's Group Meeting	90	JB/PC

AY McDonald Mfg. Co.(94)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Anatomy of a Service Lateral(1907)	2/1/2012	Classroom and Hands-on	120	First approved 3/7/05. From pipe to meter.
No-Lead Water Service Brass & Legislation(4688)	2/1/2012	Classroom and Hands-on	60	Regulatory update, water mains/service connections.
Water Works Brass Product Training(258)	2/1/2012	Classroom and Hands-on	240	First approved 3/15/01. Proper use of brass fittings and valves for water service lines, backflow valves and lead content in brass. May include a factory tour.

B&W Control System Integration(753)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
The State of Technology in Water Operations(8520)	6/1/2014	Conference/Seminar	60	Focuses on state of technology for the water field. Sub-topics include modern PLCs, communications, fiber, table-based technology, and other related "tech topics" specific to water operators.

Badger Meter, Inc.(16)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Meter Accuracy & New Static Meter Technology(5691)	**11/2/2012**	Operator's Group Meeting	**120**	Meter accuracy and new meter technologies used in measuring water for revenue purposes and AWWA research results for meters at low flows.
ORION Trimble Training(7771)	**10/21/2013**	Classroom and Hands-on	**480**	Water mains and service connections, leak detection and data profiling of water meters.
ReadCenter Software Training(7770)	**10/21/2013**	Classroom and Hands-on	**480**	Use and application of Badger Meeter ReadCenter Meter Data Management Software
How Technology Is Changing the Water Industry(9151)	**1/21/2015**	Operator's Group Meeting	**60**	Water mains/service connections; changes in potable water industry regarding software, analytics, and infrastructure free meter reading systems.

Baxter & Woodman(876)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Sample Collector Training(6900)	**12/20/2012**	Classroom and Hands-on	**90**	Regulatory requirements, different types of samples and how to collect them and prepare them for the lab, what constitutes a good sampling location. Trainees must demonstrate proper sample collection technique. Covers Chapter 3 of Sample Collector's Handbook and clients SOP for sample collectioni available.
Understanding Wells and Pumps(6901)	**12/20/2012**	Classroom and Hands-on	**150**	Well design and equipment. Static & operating levels, calculating drawdown and specific capacity. Understanding pump curves. Discharge head, well lift, and total head. Well maintenance. Hands-on identification of pump and well equipment, perform static and operating levels and calculate drawdown and specific capacity.

Black Hawk College(115)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Beginning Drinking Water Operators Course(9675)	**8/26/2015**	Conference/Seminar	**1980**	Math, water sources, well construction, pumps and pumping, water quality and disinfection, fluoridation, distribution, sample collection. Eight quizzes, a final exam and paper required.

Bloomington Water Treatment Plant(230)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Colilert Method Review(4234)	**2/1/2012**	Classroom and Hands-on	**60**	Colilert Method SOP discussed and demonstrated; participants analyze samples. Coliform, TCR Rule; QC for media and vessels; sample receipt and login, excess chlorine residual in "blue flash"; sample analysis using Colilert media; demo Coliform neg, Total Coliform pos/E.Coli neg, and Total Coliform/E. coli Pos; review incubation time and temp for each media (Colilert, Colilert18); interpretation of results, QC checks; lab reports, IEPA sampling protocols and procedures for unsatisfactory samples.
Measuring Turbidity(4221)	**10/26/2012**	Classroom and Hands-on	**30**	Definition of turbidity, measuring turbidity (historical accepted methods), units of turbidity, regulations, common ranges of turbidity in water, turbidimeter operation (overview, calibration, procedure, checks, note and precautions), recording turbidities, hands-on practice.
BacT Sample Collection(2500)	**4/1/2014**	Classroom and Demonstration	**30**	JB
Chlorine Testing(8255)	**4/1/2014**	Classroom and Hands-on	**30**	Measuring chlroine residuals (low range and high range), use and demonstration of laboratory and portable analyzers, calibration and verification of analyzers, brief history of drinking water disinfection
Chlorine Testing(8253)	**4/1/2014**	Classroom and Hands-on	**30**	Measuring chlroine residuals (low range and high range), use and demonstration of laboratory and portable analyzers, calibration and verification of analyzers, brief history of drinking water disinfection
Chlorine Testing(8256)	**4/1/2014**	Classroom and Hands-on	**30**	Measuring chlroine residuals (low range and high range), use and demonstration of laboratory and portable analyzers, calibration and verification of analyzers, brief history of drinking water disinfection
Chlorine Testing(8254)	**4/1/2014**	Classroom and Hands-on	**30**	Measuring chlroine residuals (low range and high range), use and demonstration of laboratory and portable analyzers, calibration and verification of analyzers, brief history of drinking water disinfection
Lead and Copper Overview(2998)	**5/1/2014**	Classroom/College	**30**	JB
Gas Monitoring Sensor Training(8600)	**7/16/2014**	Classroom and Hands-on	**30**	Intro to gas monitoring equipment, what gases are detected, overview of alarms, demo of meter set-up use and calibration, care and maint. Meters will be used by personnel to monitor atmospheres in confined spaces.

Brenntag Mid-South Inc.(191)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Chlorine Safety & Handling(8075)	**1/14/2014**	Classroom and Hands-on	**120**	Provides infor and guidelines for the safe handling and use of chlorine in water and wastewater applications as it relates to life safety, community, environment, and standard operating proceedures.

Brenntag Missouri Valley(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Chlorine Safety (General Awareness)(9268)	**3/2/2015**	Classroom and Hands-on	**120**	Chlorine Safety and Handling
Chlorine Safety (General Awareness/Demo)(9267)	**3/2/2015**	Classroom and Hands-on	**180**	Chlorine Safety and Handling

California State University, Sacramento(71)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Small Water System Operation and Maintenance*(200)	**1/29/2001**	Workshop	**5400**	5th Edition. This course is designed to train operators in the practical aspects of operating and maintaining small drinking water supply systems and treatment plants, with emphasis on safe practices and procedures. Manual 731 pages - Test for each of the 8 chapters.
Utility Management(203)	**1/29/2001**	Workshop	**1200**	Utility Management, 5th Edition. This training course offers detailed information regarding all major areas of responsibility of a utility manager. The manual describes why planning, organization, and record keeping are critical to virtually all aspects of utility management. Manual 61 pages - One test.
Water Treatment Plant Operation, Volume I(198)	**1/29/2001**	Workshop	**5400**	6th Edition. This course is designed to train operators in the practical aspects of operating and maintaining water treatment plants, emphasizing safe practices and procedures. Information is presented on the importance and responsibilities of a water treatment plant operator, sources of water, reservoir management, and intake structures. Manual 740 pages - Test for each of the 11 chapters.
Water Treatment Plant Operation, Volume II(199)	**1/29/2001**	Workshop	**5400**	6th Edition. This course is a continuation of Volume I. Information is presented on drinking water regulations (including the Safe Drinking Water Act), iron and manganese control, fluoridation, softening, trihalomethanes, demineralization, handling and disposal of process wastes, maintenance, instrumentation, and advanced laboratory procedures. Manual 875 pages - Test for each of the 12 chapters.

Drinking Water Courses for Renewal Training Credit

Small Water System Information Video Series*(370)	**9/27/2001**	Video	**1800**	The objective of this 10-video series is to provide operators and managers with the knowledge, skills, and abilities that are essential to safely operate and maintain their facilities using cost-effective strategies. Upon completion of this course, operators should understand the components of the Roles and Responsibilities of Operators,Managers, Owners, and Elected Board Members, Surface Water Treatment, Groundwater Treatment, Storage and Distribution, Monitoring, Managerial Responsibilities, Financial Considerations, and Emergency Preparedness. Test for each of the 10 chapters.
Manage for Success(2054)	**8/16/2005**	Workshop	**2700**	1st Edition. This training manual stresses problem identification and solutions, working together as a team, communication, motivation, and evaluating and improving solutions to problems. Manual 458 pages - Test for each of the 14 chapters.
Small Water Systems: Disinfection(2051)	**8/16/2005**	Operator's Group Meeting	**1080**	5 Edition, 702D Small Water Systems: Disinfection. Upon completion of this course, operators should understand the components of a water supply system from source to customer, understand the purpose for disinfection and the applicable regulations, the factors influencing disinfection effectiveness, the physical and chemical means of disinfection and the critical factors affecting each.
Small Water Systems: Laboratory(2053)	**8/16/2005**	Operator's Group Meeting	**1080**	702F Small Water Systems: Laboratory, 5th edition. Upon completion of this course, operators should be able to develop and implement a safety program for workers at water treatment and distribution facilities, understand and properly use safety equipment, institute safe practices around wells, treatment works, chemical processes, pumps, streets and trenches, confined spaces, and water storage facilities, practice lockout/tagout procedures, and conduct safety inspections. Upon completion of the second component of this course, operators should be able to develop water rates for a utility, determine revenue requirements, apply cost allocation methods, calculate distribution of costs to customers, design rates, administer rates and charges, and plan for financial stability.

Drinking Water Courses for Renewal Training Credit

Small Water Systems: Small Water Treatment Plants(2050)	**8/16/2005**	Operator's Group Meeting	**1080**	702C Small Water Systems: Small Water Treatment Plants, 5th Edition. Upon completion of this course, operators should understand treatment requirements and methods for surface waters and groundwaters, be able to operate coagulation, flocculation, sedimentation, filtration, and disinfection treatment processes for a surface water treatment plant, be able to institute a corrosion control program to protect treatment and distribution infrastructure, understand the operation of solids-contact clarification and slow sand filter systems, be able to operate iron and manganese removal and water softening processes for treatment of groundwater, and be able to set up effective maintenance and safety programs for a treatment works.
Small Water Systems: Water Rates/Safety(2052)	**8/16/2005**	Operator's Group Meeting	**1080**	702E Small Water Systems: Water Rates/Safety, 5th Edition. Upon completion of this course, operators should be able to develop and implement a safety program for workers at water treatment and distribution facilities, understand and properly use safety equipment, institute safe practices around wells, treatment works, chemical processes, pumps, streets and trenches, confined spaces, and water storage facilities, practice lockout/tagout procedures, and conduct safety inspections.
Small Water Systems: Wells(2049)	**8/16/2005**	Operator's Group Meeting	**1080**	702B Small Water Systems: Wells, 5th Edition. Set up of wellhead protection program, ID parts of a well and pump system, maintain and rehab a well, operate and maintain a well pump and hydropneumatic pressure tank, inspect a well and pumping system, disinfect wells and pumps, keep accurate records, remove sand from water mains, troubleshoot, select a well site, describe types of wells and drilling methods, test and evaluate a well and pump, and abandon and plug a well no longer productive or needed.
Water System O&M Video Training Series(2061)	**9/13/2005**	Video	**1800**	This course covers seven critical areas of water treatment and distribution: Wellhead Protection, Hypochlorination, Water Storage Tanks, Sampling and Testing, Inspecting a Pump Station, Distribution Systems, and Approaches to Compliance with Standards. The learning booklet available with this course provides supplemental information to the video-based instruction. Test for each of the 7 chapters.

Drinking Water Courses for Renewal Training Credit

Water Treatment Plant Operation Specialist(2062)	**9/13/2005**	Operator's Group Meeting	#####	These courses are designed for students seeking academic credit that may be transferred to other colleges and universities.The certificate program comprises the following courses: Water Treatment Plant Operation I (CE 28A) Test for each of the 11 chapters and a 4 hour online final exam, Water Treatment Plant Operation II (CE 28B) Test for each of the 12 chapters and a 4 hour online final exam, and Small Water System Operation and Maintenance (CE 29) Test for each of the 8 chapters and a 4 hour online final exam. Students enrolled in one of these certificate programs earn 6 units of academic credit and 90 contact hours for each course completed. Upon successful completion of all three courses students will earn a Water Treatment Plant Operation Specialist Certificate.
Industrial Waste Treatment, Volume II(9678)	**1/1/2007**	Workshop	**5400**	3rd Edition. This course is designed to train operators in the practical aspects of operating and maintaining industrial wastewater treatment plants, emphasizing safe practices and procedures. Topics covered include the importance and responsibilities of an industrial treatment plant operator, fixed growth processes (trickling filters and rotating biological contactors), activated sludge process control, sequencing batch reactors, enhanced biological treatment (including nitrogen and phosphorus removal), anaerobic treatment, residual solids management, and plant and equipment maintenance. Manual 838 pages - Test for each of the 8 chapters.
Water Distribution System: Facilities(2704)	**8/7/2007**	Operator's Group Meeting	**1080**	703B Water Distribution System: Facilities, 5th Edition. Upon completion of this course, operators should be able to identify various types of storage facilities, pipes, joints, meters, and backflow prevention devices. Operators will learn how to determine suitable locations for facilities, inspect storage facilities, take a storage facility out of service and return it to service, safely operate, maintain, and select protective coatings for a storage facility, apply interior and exterior protective coatings, collect samples from a storage facility, protect equipment from corrosion, disinfect a storage facility, and maintain records.

Drinking Water Courses for Renewal Training Credit

Water Distribution System: O&M Activities(2706)	**8/7/2007**	Operator's Group Meeting	**1080**	703D Water Distribution System: O&M Activities, 5th Edition. Upon completion of this course, operators should be able to develop and conduct a water distribution system surveillance program, a water quality monitoring program, and a cross-connection control program; locate and repair buried pipes and leaks; make pipe connections; flush and clean pipes; thaw frozen pipes and hydrants; test and read meters; disinfect mains and storage facilities; conduct effective recordkeeping; respond to emergencies; deal with the public; perform landscape maintenance around facilities; and safely operate and maintain a water distribution system.
Water Distribution System: Quality & Disinfection(2705)	**8/7/2007**	Operator's Group Meeting	**1080**	703C Water Distribution System: Quality & Disinfection, %th Editin. Upon completion of this course, operators should be able to identify various types of contaminants and contamination sources and identify and correct causes of water quality degradation in water mains and storage facilities. Operators should also be able to disinfect new and existing wells, pumps, mains, and storage facilities; calculate chlorine dosage; operate and maintain hypochlorinators and chlorinators; troubleshoot chlorination systems; and conduct a chlorine safety program.
Water Distribution System: Safety(2703)	**8/7/2007**	Operator's Group Meeting	**1080**	703A Water Distribution System: Safety, 5th Edition. Upon completion of this course, operators should have a clear understanding of operator responsibilities, certification requirements, and career management strategies. Operators completing this course should also be able to develop and conduct a safety program and tailgate safety sessions; be able to safely operate and maintain pumps, wells, vehicles, and equipment. Operators will also learn about defensive and safe vehicle driving, routing traffic, working safely in streets, protecting the public, and conducting safety inspections of waterworks facilities.
Water Distribution System: System Administration(2707)	**8/7/2007**	Operator's Group Meeting	**1080**	703E Water Distribution System: System Administration, 5th Edition. Upon completion of this course, operators should be able to perform the following administrative functions: emergency planning; constructing an organizational chart; writing a job description and interview questions; conducting employee evaluations; ensuring equal and fair treatment to all employees; practicing effective communication within the organization; financial planning; setting up a safety program; and maintaining effective distribution system record management.

Industrial Waste Treatment, Volume I(9677)	1/1/2008	Workshop	5400	3rd Edition. Operators learn to operate and maintain flow measurement equipment, preliminary treatment processes (equalization, screening, and pH adjustment), physical-chemical treatment processes (coagulation, flocculation, and sedimentation), pressure and gravity filters (including membrane filters), physical treatment processes (air stripping and carbon adsorption), and processes for treatment of metal wastestreams. Operators will also learn to operate and maintain treatment plant instrumentation equipment and systems. Manual 975 pages - Test for each of the 14 chapters.
Advanced Waste Treatment(3121)	10/23/2008	Workshop	840	5th Edition. Lime sludge waste - only 14 hours approved. JB Information presented includes detailed descriptions of the equipment and advanced treatment processes used for odor control, pure oxygen activated sludge treatment, solids removal from secondary effluents, residual solids management, enhanced biological control including nitrogen and phosphorus removal, and wastewater reclamation. The residual solids management chapter contains information on sludge types, characteristics, and quantities; sludge thickening using gravity thickeners, dissolved air flotation units, centrifuges and thermal conditioning as well as wet oxidation and elutriation; dewatering with pressure filtration (plate and frame, belt, vacuum), centrifuges and drying beds; volume reduction using composting, mechanical drying, incineration, and lagoons; and disposal methods for dewatered or liquid stabilized sludge. Manual 783 pages - Test for each of the 9 chapters.
Water Distribution System Operation & Maintenance(6847)	8/1/2012	Workshop	5400	6th Edition. Topics include the role and duties of water distribution system operators, procedures for operating and maintaining clear wells and storage tanks, components and characteristics of distribution system facilities, operating and maintaining distribution systems, maintaining water quality in the system, disinfecting new and repaired facilities as well as water delivered to consumers, and techniques for recognizing hazards and developing safe procedures and programs. Manual 673 pages - Test for each of the 8 chapters.

Calumet City Plumbing Co., Inc.(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Backflow Prevention As It Relates To The Water Ope(8291)	4/17/2014	Presentation	61	Definition history of backflow prevention, decription of different types of backflow preventors, high risk facilities, & backflow prevention on the new construction site.

Drinking Water Courses for Renewal Training Credit

Cascade Waterworks Mfg Co.(158)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Cascade Plant Tour(986)	2/8/2012	Classroom and Hands-on	240	First approved 2/5/03. Plant tour will include proper demonstration of installations and hands-on installations of various DW and WW components and fittings. Discussions of safe use and techniques for avoiding injury during installations of service saddles, tapping sleeves, and repair clamps. Various application types for Casing Spacers is decribed in detail. Material choices such as stainless steel options, rubber compounds, and fastener strengths.

Central Illinois Water Plant Op. Assn. (CIWPOA)(39)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Dissolved Air Flotation/Anaytical Equipment(9561)	11/16/2015	Operator's Group Meeting	120	Dissolved air flotation; analytical equipment

CEU Plan(187)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Analytical Chemistry Techniques(4190)	2/21/2012	Operator's Group Meeting	180	This three hour short course is a survey of the myriad of techniques common to water treatment. Correct and accurate determination of the contaminants in water is the first and last step for all water treatment facilities. Before we can even design a treatment, we must know what and how much contaminant is in the water. When we are finished with the treatment, we must, again, test for the contaminant so that we will know if our treatment worked and to be assured that we are putting out good quality water (and to assure the public and the government of the same). When a treatment device is not working properly, it is imperative that we determine what is wrong with it so that we can restore the treatment process as quickly as possible. We will, in this course, also discuss some of the more common analytical chemistry techniques used towards this end.

Drinking Water Courses for Renewal Training Credit

Arsenic(1917)	**2/21/2012**	Operator's Group Meeting	**60**	This one hour short course details one of the rules promulgated by the USEPA as part of the Drinking Water Quality Standards. We will discuss only the requirements put forth by the USEPA not the individual states. The states, as a condition of primacy are required to make regulations "equal to or stricter than" those progumated by the USEPA. This short course addresses the regulations concerning Arsenic in drinking water. We will discuss the requirements, the necessary testing and monitoring, and methods of complying with the rule. It is not necessary that you be a chemist or an engineer but an understanding of basic principles of water treatment and some basic chemistry will make the "treatment" section of the course seem easier. I will endeavor to explain everything as we progress. This course is not a rigorous study and it will not be necessary to memorize or derive equations. This course is conceived to impart a good background, an understanding on which to build.
Atoms & Molecules(4803)	**2/21/2012**	Operator's Group Meeting	**60**	This short course is the first part of larger course entitled Basic Chemistry. In this short course, we will investigate atoms and molecules, the basic building blocks of all physical matter in this world (and out of it too) that occupy space. We will discuss some of the basic concepts of chemistry but the course is not designed for chemists nor is it designed to turn anyone into one. This course is not designed to be a rigorous study and it will not be necessary to memorize or derive equations. It is suggested that you have a calculator handy to do basic multiplication and division. If you do not have one, there is one on your computer (all windows operating systems have one under Accessories heading in the Programs section in the Start menu). In the real world, if you need an equation or in-depth study of a principle, there are many excellent reference books, the internet, and a host of specialists that can consulted. This course is conceived to impart a good background, an understanding on which to build.
Basic Chemistry-Complete Series(3606)	**2/21/2012**	Other	**600**	In this ten hour course, we will discuss many of the basic concepts of chemistry but the course is not designed for chemists nor is it designed to turn anyone into one. The course has been broken into eight short courses that can be taken together or in one or two hour increments.
Basic Microbiology(1437)	**2/21/2012**	Operator's Group Meeting	**60**	Basic Microbiology

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Basic Microbiology - Part 2(2346)	**2/21/2012**	Operator's Group Meeting	**120**	This course is a continuation of the Basic Microbiology course, Part 1. It will include all the basic techniques that were discussed in Part 1. It will mainly concentrate on the methods currently accepted by EPA to detect Total and Fecal Coliforms in Drinking Water. Some of these methods are also acceptable for testing Environmental Waters (non potable). Besides the step-by-step methodology I will include a discussion of each of the procedures, their pros and cons for many laboratories. Most of the procedures for Total and Fecal Coliforms include the primary testing method, and confirmatory test when required.Already I have used terms that need some explanation. Drinking and Finished drinking water are treated basically the same according to EPA. You must test the full 100ml sample volume and you only need to report coliform Presence/Absence, but results can be enumerated and both total and fecal coliforms must be confirmed. Surface and Raw Source drinking water are basically the same for the purpose of this discussion. You might test the full 100 ml sample volume, but it may not be necessary depending on what methodology you are using. Environmental, Ambient and Stream water are another group EPA treats as the same. They don't require the full 100ml sample to be tested and confirmation is not always required for every analysis, but you need to enumerate your results. Consult the EPA website if you need further information on the types of waters your lab analyzes.When I use the term must it means that this criteria is required by the National Primary Drinking Water Regulations. The term'shouldÃ¢â‚¬Â¨s used for practices while not specifically required by regulations, are considered good laboratory practice for quality assuranceBy the end of this training course, you will have the ability to: •evaluate and implement a laboratory procedures •create a procedure for the Chain of custody for laboratory results. •describe the different methods for testing for total and fecal coliforms •compose and maintain a Laboratory Quality Manual •explain the QC plan should be kept to maximum of five pages but kept responsive to changes •define the testing methods utilized at your plant
Bio-Augmentation(805)	**2/21/2012**	Operator's Group Meeting	**60**	Bio-Augmentation
Chemical Bonding(4805)	**2/21/2012**	Operator's Group Meeting	**60**	Chemical Bonding
Chemical Nomenclature(4806)	**2/21/2012**	Operator's Group Meeting	**60**	Chemical Nomenclature
Chemical Protective Clothing & Respiratory Protect(809)	**2/21/2012**	Operator's Group Meeting	**180**	Chemical Protective Clothing & Respiratory Protect

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Chlorinators(800)	**2/21/2012**	Operator's Group Meeting	**60**	Chlorinators
Chlorine Dioxide(802)	**2/21/2012**	Operator's Group Meeting	**60**	Chlorine Dioxide
Chlorine Procedures(801)	**2/21/2012**	Operator's Group Meeting	**60**	Chlorine Procedures
Components of Chlorine(799)	**2/21/2012**	Operator's Group Meeting	**60**	Components of Chlorine
Corrosion Control(2347)	**2/21/2012**	Operator's Group Meeting	**60**	In April 1992, nine explosions rocked the City of Guadalahara, Mexico. The explosions opened a two kilometer trench, killed 215 people, injured hundreds, and damaged sixteen hundred buildings. Damages were calculated at 75 million US dollars. The event was the result of corrosion.A corroded water line leaked and caused the corrosion of a buried gasoline line. As a result, the gasoline line corroded and leaked its contents into a porous sewer line. The gasoline flumes mixed with air from the surface and street traffic ignited the explosive combination. Corrosion is often viewed as rust, to be painted over, and forgotten. As you will see in this course, corrosion is a serious matter that should be near the top of your “To Do list". Corrosion is often hidden or masked; not visible without investigation. Corrosion can be dangerous to the system and to your health. Corrosion is always costly.As we go on, we will learn:•What corrosion means to a water system•What corrosion means to a wastewater system•What the risks are•How corrosion can be prevented•How corrosion damage can be repaired•How to be safeBy the end of this training course, you will have the ability to: •explain the theory of corrosion •identify corrosion parameters with detection and prevention concepts •demonstrate the use of phosphates for corrosion control •implement a plan to control lead corrosion •evaluate corrosion damage at a wastewater system. •describe the risks
CPM: Building a PM Program(4809)	**2/21/2012**	Operator's Group Meeting	**120**	CPM: Building a PM Program
CPM: Creating SOP's(4813)	**2/21/2012**	Operator's Group Meeting	**120**	CPM: Creating SOP's
CPM: Functions, Failures - Modes & Effects(4808)	**2/21/2012**	Operator's Group Meeting	**120**	CPM: Functions, Failures - Modes & Effects
CPM: Tracking Failures(4810)	**2/21/2012**	Operator's Group Meeting	**120**	CPM: Tracking Failures
Dechlorination for Gas Application and	**2/21/2012**	Operator's Group Meeting	**180**	Dechlorination for Gas Application and Usage
Disinfection By-Products: Summary of Rule(920)	**2/21/2012**	Operator's Group Meeting	**120**	Summary of the Rule.
Distribution Mathematics(1435)	**2/21/2012**	Operator's Group Meeting	**120**	Distribution Mathematics

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Emergency Response(3388)	**2/21/2012**	Operator's Group Meeting	**60**	Emergency Response
Emerging Waterborne Pathogens(812)	**2/21/2012**	Operator's Group Meeting	**180**	Emerging Waterborne Pathogens
Enhanced Coagulation(923)	**2/21/2012**	Operator's Group Meeting	**60**	Theory behind enhanced coagulation and how it may be pilot tested, implemented and maintained and monitored.
Geology(806)	**2/21/2012**	Operator's Group Meeting	**60**	Geology
Hazardous Materials Effects on Human Health(797)	**2/21/2012**	Operator's Group Meeting	**240**	Hazardous Materials Effects on Human Health
History of Ultraviolet Disinfection(1441)	**2/21/2012**	Operator's Group Meeting	**60**	The development of Ultraviolet Disinfection equipment has been primarily dependent on people having new ideas on how to bring the latest developments in the field of lamps, ballasts, and sensors together after it was shown that UV light would inactivate microorganisms. This course will explain the history of Ultraviolet Disinfection through the time elements of patented discoveries. Since the discovery in the 19th century that ultraviolet light will inactivate microorganisms it has been exploited for commercial purposes. This review will look at UV systems and show through patents and their accompanying scientific papers how UV systems in the early 1900s have evolved into todays modern equipment. The initial UV system will be contrasted with the equipment that exists today to cope with the same problems. In addition, this course will trace the development of the UV disinfection of water and wastewater by using primarily United States patents and scientific papers by the inventors.By the end of this training course, you will have the ability to: •explain the history of UV disinfection •compare the methods of UV disinfection •list the cleaning methods of a UV systym •explain UV light as a disinfectant and that it has no residual •compare UV treatment in wastewater treatment has become cost effective •evaluate the cleaning techniques such as: air sourcing, chemical, and acid methods

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Introduction to Backflow Prevention(1924)	**2/21/2012**	Operator's Group Meeting	**60**	An Introduction to Backflow Prevention is a primer for the water supplier who needs to have an understanding of the basic principles, hydraulic influences, and backflow prevention assemblies that are used to protect the public water system.The course begins with a review of the rational, growth and need to implement a backflow prevention program.Section 1 will explain the value of water throughout history and the need for the water supplier to protect the quality and integrity of the public water system from the contamination threat posed by the water customer.Section 2 explains the hydraulic conditions that can facilitate or even cause a backflow event and contaminate the public water system, along the hydraulic principles that cause backflow to happen in the public water system. The Operator will learn the impact that these principles can effect on the public system and the negative ramifications that can result.Section 3 presents the proper application of backflow prevention assemblies, the operation, advantages and limitations of various backflow prevention assemblies that would be used as containment principle protection for the public water system. And lastly, we will demonstrate the protections that a utility can implement through the appropriate selection and application of the available backflow prevention assemblies to protect the public water system.By the end of this training course, you will have the ability to: •identify various check and actuated control valves •describe the importance of a backflow prevention program •compare a backflow prevention program •create a backflow prevention testing program •apply test lines and gauges for backflow prevention test •formulate a compliance and monitoring program

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Introduction to Basic Microbiology & Parasites(2345)	**2/21/2012**	Operator's Group Meeting	**360**	Introduction to Basic Microbiology and Parasites is a combination of the Basic Microbiology, Parts 1 and 2, along with the study of Parasites, Part 1 and 2. This complete course is a six hours course including the following course summaries: Basic Microbiology, Part 1: This class will introduce you with all the basics of microbiology. It will help with your understanding of techniques, materials, media and reagents that are commonly used in all Microbiology laboratories. A brief history of microbiology and the development of media and procedures for testing drinking water will begin your understanding of microbiology. Definitions of basic terms, a discussion of glassware and equipment and a beginning understanding of staining bacteria will set the stage for beginning lab work to follow. I hope this class will introduce you with all the basics of microbiology. It will help with your understanding of techniques, materials, media and reagents that are commonly used in Microbiology laboratory. Basic Microbiology, Part 2: This class is a continuation of the basic Microbiology course. It will include all the basic techniques that were discussed in Part One. It will mainly concentrate on the methods currently accepted by EPA to detect Total and Fecal Coliforms in Drinking Water. Some of these methods are also acceptable for testing Environmental Waters (non potable). Besides the step-by-step methodology I will include a discussion of each of the procedures, their pros and cons for many laboratories. Most of the procedures for Total and Fecal Coliforms include the primary testing method, and confirmatory test when required. Parasites, Part 1: This class is to introduce laboratory personnel to human intestinal parasites. This class will include the study of the helminths, nematodes, trematodes and cestodes. There will be tips to the identification of their ova, their life cycle and their effects on man. This class will introduce you into how to process specimens, use a microscope, and calibration of a micrometer. This class will cover all the basics for the identification of the 3 group's helminths. Parasites, Part 2:This class is intended for the environmental technician but has been adapted from a clinical course. You may find some of the information more detailed than you thought you needed. But lots of background information is always a good thing. This course will introduce you to the most common parasitic group, the Protozoan. This group includes the amoeba, flagellates, ciliates and coccidia. This course will focus on the cyst or environmental form of these organisms.

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				The trophozoite form is the motile stage that lives in the body. And they must be stained with a specific stain to assure identification. Because of that staining procedure, trophozoite identification is another course all by itself. The presented information is applicable for environmental samples and human specimens alike. I do recom
Introduction to Chlorine(798)	**2/21/2012**	Operator's Group Meeting	**60**	Introduction to Chlorine
Introduction to the Hydrologic Cycle & Aquifers(2349)	**2/21/2012**	Operator's Group Meeting	**60**	This one hour short course is the first in a series of courses based on the popular "Water's Journey" series of films. Earth has been described as a water planet, and, without a doubt, water is our most important resource. All living things depend on the natural cycle of water. It is the essence that gives us life. One of the greatest mysteries of our planet is the magical cycle of water - Rain pours down from the skies nourishing parched vegetation, evaporation drives water skyward, springs convey great volumes of water to earth's magnificent rivers, and mankind is intertwined in this complex and endless renewal of water. Perhaps the most amazing wonder about this great cycle is water's secret journey underground, where it can travel for hundreds of years before revealing itself on the surface again. Vast reserves of clean water are held within the rock in the earth's aquifers. To protect these precious resources, we must come to understand the body of our planet. Film producer and environmentalist Wes Skiles led a team in exploring and charting part of the Floridian aquifer from the inside. The expedition was produced for the National Public Broadcasting System by Karst Productions. We have obtained the rights to create this one hour course for continuing education credit based on this film. We are excited about the outcome and hope that you enjoy the course.
Introduction to UV Technologies(817)	**2/21/2012**	Operator's Group Meeting	**60**	Introduction to UV Technologies

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Introduction to Watersheds and Riversheds(2350)	**2/21/2012**	Operator's Group Meeting	**60**	This one hour course is the second in the series of courses based on the popular "Water's Journey" series of films. This installment follows filmmaker and environmentalist Wes Skiles and his team as they explore the St. Johns River from its mouth at the Atlantic Ocean to its headwaters deep in the marshes in the interior of Florida. This river, the largest in Florida, has undergone a series of major transformations over the years from its discovery by Europeans in the mid 1500s to the ill-fated attempt to recover the flood plain by draining the river to its current rebirth. We will explore this incredible river from its mouth at Jacksonville through its three distinct riversheds to its headwaters and will discover how conservation and restoration methodologies are bringing the mighty St. Johns back from the brink of destruction.By the end of this training course, you will have the ability to: •describe the hydrologic cycle •creation and implementation of a stormwater management plan •evaluate a surface water supply program and system •indicate the geologic history of aquifer •discuss the age of aquifer water
Lab Practices - Terminology & Apparatus(3387)	**2/21/2012**	Operator's Group Meeting	**60**	It is not unusual for an individual to take a trainee job in a municipal laboratory setting with a minimal scientific background. Operators are sometimes thrust into the role of laboratory analyst without having had much, if any, formal laboratory training. Even if one has completed high school chemistry and/or biology, the terminology specific to the water and wastewater field may be new. The purpose of this course is to introduce individuals desiring to work, or already working, in a water or wastewater lab to basic laboratory terminology, apparatus, and equipment.
Lab Practices: Basic Drinking Water Quality Test(4820)	**2/21/2012**	Operator's Group Meeting	**120**	This course is designed to introduce the following basic water quality procedures to operators and new laboratory analysts: pH, acidity, alkalinity, chlorine residual, color, conductivity, hardness, threshold odor number, turbidity, and the jar test. For each parameter, general information is discussed; proper sample collection, preservation techniques and holding times are presented; step-by-step analytical procedures based on approved regulatory methods (where applicable) are given; the equipment and apparatus necessary for each procedure are listed; and troubleshooting issues are presented.

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Laboratory Safety - Labware & Waste Disposal(3385)	**2/21/2012**	Operator's Group Meeting	**60**	Laboratory Safety - Labware & Waste Disposal
Laboratory Safety: Electrical, Fire and Radiation(4819)	**2/21/2012**	Operator's Group Meeting	**60**	It's easy to take electricity for granted, and to ignore its potential dangers. The combination of electrical and electronic equipment, chemicals, and liquids can be hazardous if not deadly. Note that this course is designed for environmental laboratory technicians and water/wastewater operators, and does not go into the level of detail nor explore regulatory requirements for electricians and electrical workers. Electrical construction and repair must be done by someone properly trained and certified. If there is an electrical problem in the laboratory, contact a supervisor or the maintenance department and request immediate troubleshooting and repair of the problem.Fire is a serious, but common, hazard in the laboratory. Fires can be caused by faulty electrical equipment, misuse of chemicals, improper chemical storage or disposal, and open flames from burners and heaters. Once a fire or explosion occurs in a laboratory it can get out of control quickly, as other chemicals are exposed to heat, flames, or shrapnel from explosions.Some of the more sophisticated water laboratories may use radiation producing equipment such as analytical x-ray equipment, and may use or test for radioactive materials. In this course, we will discuss these types of equipment and the laboratory safety requirements for them.By the end of this training course, you will have the ability to: •explain how to safely work in a lab around electrical equipment, fire safety, and radiation hazards •discuss the duration of exposure or cumulative exposure is critical for health •identify the different classes of fire extinguishers and their locations. •demonstrate that chemicals should be store according to compatibility •indicate electrical and fire hazards within the lab
Laboratory Safety: Guidelines-Chemical & Bio(4814)	**2/21/2012**	Operator's Group Meeting	**60**	Laboratory Safety: Guidelines-Chemical & Biosafety
Laboratory Safety: Overview, Rules & Regulations(4801)	**2/21/2012**	Operator's Group Meeting	**60**	Laboratory Safety: Overview, Rules & Regulations
Laboratory Safety:The Nucleus of a Lab Safety Prog(4802)	**2/21/2012**	Operator's Group Meeting	**60**	Laboratory Safety:The Nucleus of a Lab Safety Program

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Lead and Copper Rule(1916)	**2/21/2012**	Operator's Group Meeting	**60**	This one hour short course details one of the rules promulgated by the USEPA as part of the Drinking Water Quality Standards. We will discuss only the requirements put forth by the USEPA not the individual states. The states, as a condition of primacy are required to make regulations "equal to or stricter than" those progumated by the USEPA and most have copied wholesale their rules from the Code of Federal Regulations regarding drinking water regulations. This short course addresses the Lead and Copper Rule (LCR) as put forth in Subpart I, ”Control of Lead and Copper" (40 CFR 141.80 and other documents). We will discuss the requirements, the necessary testing and monitoring, and methods of complying with the rule. It is not necessary that you be a chemist or an engineer but an understanding of basic principles of water treatment and some basic chemistry will make the "treatment" section of the course seem easier. I will endeavor to explain everything as we progress. This course is not a rigorous study and it will not be necessary to memorize or derive equations. This course is conceived to impart a good background, an understanding on which to build.Each paragraph reviews a concept necessary to an understanding of water chemistry. Throughout the text, terms that are particularly important are typed in bold. Hovering your cursor over a term in bold will usually bring up a definition for that term. In each section, grayed boxes give hints, rules of thumb, and other notes that help clarify the concepts presented. An example of some of the engineering is presented after the discussion with complete solutions explaining the problem solving process. It is recommended that the problem set be reviewed until the solution is understood. Because each ensuing concept builds on the last, the section should be reviewed until the examples can be answered correctly with confidence.By the end of this training course, you will have the ability to: •describe the regulations surrounding the Lead and Copper Rule and the Compliance of the Rule •identify lead and copper in plumbing materials used in drinking water supplies •describe health hazards associated with lead or copper poisoning •create a good sampling technique for lead and copper •develop a lead and copper monitoring program including periods, parameters, sampling locations, and sampling frequency •evaluate and implementation of a lead and copper removal

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				program
Leadership(4191)	**2/21/2012**	Operator's Group Meeting	**60**	Leadership
Manager's Guide to Cost Control(4194)	**2/21/2012**	Operator's Group Meeting	**120**	Manager’s Guide to Cost Control provides you with some practical strategies to operate your public utility, water or wastewater plant more economically. It is a two-hour course wherein Mr. Bode illustrates his actual experiences with successfully reducing his wastewater department operating budget while maintaining an excellent quality of service to his residents. He then relates these to useful procedures that you can apply to your own situation.
Nuclear Decay(4804)	**2/21/2012**	Operator's Group Meeting	**60**	Nuclear Decay
On-site Sodium Hypochlorite Generator Conversion(796)	**2/21/2012**	Operator's Group Meeting	**240**	On-site Sodium Hypochlorite Generator Conversion
Oxidation in Water/Wastewater Treatment(804)	**2/21/2012**	Operator's Group Meeting	**60**	Oxidation in Water/Wastewater Treatment
Parasites - Part I - Helminths(1438)	**2/21/2012**	Operator's Group Meeting	**60**	This class is to introduce laboratory personnel to human intestinal parasites. This class will include the study of the helminths, nematodes, trematodes and cestodes. There will be tips to the identification of their ova, their life cycle and their effects on man. This class will introduce you into how to process specimens, use a microscope, and calibration of a micrometer. This class will cover all the basics for the identification of the 3 group helminths.By the end of this training course, you will have the ability to: •discuss the differences between whip worms and pinworms and the causes of increased detections of parasites in humans •explain the differences from stage to stage of tapeworms •identify eggs in the Parasitic life cycles •explain how common the helminths are •indicate that hookworms are found in the soil •review of nematodes as the most common parasitic worms

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Parasites, Part 2(1922)	**2/21/2012**	Operator's Group Meeting	**120**	This class is intended for the environmental technician but has been adapted from a clinical course. You may find some of the information more detailed than you thought you needed. But lots of background information is always a good thing. This course will introduce you to the most common parasitic group, the Protozoan. This group includes the amoeba, flagellates, ciliates and coccidia. This course will focus on the cyst or environmental form of these organisms. The trophozoite form is the motile stage that lives in the body. And they must be stained with a specific stain to assure identification. Because of that staining procedure, trophozoite identification is another course all by itself. The presented information is applicable for environmental samples and human specimens alike. I do recommend that you have a reference text in your laboratory. There are several good ones available. My personal favorite is Atlas of Human Parasitology, by Lawrence Ash and Thomas Orihel. This one has of lots of color photos and extensive section of artifacts. Another good one is Procedure Manual for the Diagnosis of Intestinal Parasites, by Donald L. Price. I like this one because the procedures are explained well and there are some excellent charts for the protozoan.Part 2 is a continuation of Part 1 in that it covers the next set of parasitic organisms. The first sections of part 2 are a review. Read over again, making sure that not only do you remember the information but also that you are using it. As in part 1 I have included lifecycles. They will not be shown for every organism since many are identical. They are intended to give you an overview of how these organisms move through the environment and into the human body.By the end of this training course, you will have the ability to: •know more about protozoan, flagellates and ciliates •learn if and how parasites infect humans and the life cycles •explain the different categories of parasites •indicate some of the bugs in our plant •measure parasitic eggs •learn how to properly identify a Microsporid Oocyst
Pipes, Valves, and Fittings(816)	**2/21/2012**	Operator's Group Meeting	**60**	Pipes, Valves, and Fittings
Procedures for UV Pilot Testing(1439)	**2/21/2012**	Operator's Group Meeting	**60**	Procedures for UV Pilot Testing
Public Admin I - Intro to Public Administration(4193)	**2/21/2012**	Operator's Group Meeting	**60**	Public Admin I - Intro to Public Administration
Respiratory Protection(810)	**2/21/2012**	Operator's Group Meeting	**120**	Respiratory Protection

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Reverse Osmosis(4465)	**2/21/2012**	Operator's Group Meeting	**60**	Reverse Osmosis
Solubility(4807)	**2/21/2012**	Operator's Group Meeting	**120**	Solubility
States of Matter(4466)	**2/21/2012**	Operator's Group Meeting	**60**	States of Matter
Stormwater: New Orleans History of Stormwater(4195)	**2/21/2012**	Operator's Group Meeting	**60**	Stormwater: New Orleans History of Stormwater
Technical Equipment(807)	**2/21/2012**	Operator's Group Meeting	**60**	Technical Equipment
Terrorism Vulnerability Assessment in CWS(921)	**2/21/2012**	Operator's Group Meeting	**60**	Public Law 107-188; vulnerability assessments for all CWS.

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Toxic and Hazardous Material Handling Procedures(1436)	**2/21/2012**	Operator's Group Meeting	**240**	This course, while designed to address issues related to workers health and safety, is a multi-objective course. One of the most important objectives of this course is to make students aware of safety aspects he or she needs to know when handling hazardous and toxic chemicals manufactured, used, stored or transported on the highways.The potential of getting exposed to hazardous and toxic chemicals at workplace is great. A large body of publications and scientific literature seem to agree that all chemicals are hazardous. Some publications, on the other hand, seem to indicate that some chemicals are very serious while others are not. Regardless, students taking this course are advised to understand and respect all chemicals and take protective measures when dealing with toxic and hazardous chemicals at their workplace.Relationships between exposure to toxic chemicals and human health have been demonstrated to exist for decades if not centuries. Our health and the health of the environment in which we live seem to go hand in hand. That is to say, impacts of environmental contamination on human health can be devastating to children and the elderly. More so on children. Dr. Schettler states, "Developing tissues and homeostatic mechanisms are often uniquely vulnerable to toxic insults and children exposures frequently exceed those of adults." For example, the impact of toxic lead on adults is less pronounced than on children.Lead can cause growth retardation and can cause brain damage in children exposed to the toxic metal during their early developmental phases. Conversely, the toxic effects of mercury on human health can be demonstrated in adult beings because mercury tends to bio-accumulate in the tissues, builds up over the years until such time it reaches a dangerous level or certain threshold in the human system.The improper handling and management of toxic and hazardous material, the nucleus of this course, has been demonstrated to cause serious environmental and human health injuries. For example, toxic chemical releases into the air causes respiratory and skin illnesses, and may cause cancer in cases of frequent exposures. It could also result in physical damages as a result of fires and explosions.Finally, as the saying goes, an ounce of prevention is

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TPMAP: Checklists Mean More than a Checkmark(4817)	**2/21/2012**	Operator's Group Meeting	**60**	This course will focus maintenance as it pertains to failures and accident prevention. After completing this course, the student will be able to understand how to:•Total productive maintenance (TPM)•Cost savings•History•Background•Overall Equipment Effectiveness (OEE)•Cost impact•Ownership•Lubrication•Equipment defects•Operator equipment management pillar•Four maintenance groups•Achievements•Vicious cycle of maintenance•I bet an operator can do this!Upon completion of this course, the student should have better understanding of the following: •implementing inspections to foresee problems before they happen. •explain OEE stands for Overall Equipment Effectiveness •evaluate total productive maintenance •compose a Checklists program •create maintenance staff to use equipment check lists your repair cost and down time should be reduced •understanding the performance of our equipment and the maintenance.
TPMAP: Equipment Failures and Hazards(4816)	**2/21/2012**	Operator's Group Meeting	**60**	This course will focus maintenance as it pertains to failures and accident prevention. After completing this course, the student will be able to understand how to:•Bearings and seal failures ◦Understanding the term fatigue◦Premature bearing failure◦Seals◦Premature opening of lapped faces◦Seal leaks◦To alternate or not to alternate pumps•Problems and solutions to avoid failures•Cavitation causes and solutions•Excessive heat problems and solutions•Noises what they mean•VibrationBy the end of this training course, you will have the ability to: •explain over greased bearings will fail sooner •discuss cavation and the five major factors to evaluate •analyze why Do not alternate pumps for an equal time, to prevent same time failure •review the loss of head is greater in a globe valve over a gate valve •describe some problems commonly found that shorten bearing and seal life •choose a preventive maintenance program to include alignment and balancing of rotating equipment

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TPMAP: Ownership of Equipment(4815)	**2/21/2012**	Operator's Group Meeting	**60**	This course will focus on general supervision and the areas associated with supervision. After completing this course, the student will be able to understand the how to: Ã,· Predicting centrifugal pump failureso Detecting temperature differentialo Causes of high temperatureo Oil samplingo Monitoring and analyzing datao Good maintenance practiceso Operations part in preventiono Ensuring longer rotating equipment lifeFriction between maintenance and operationsBy the end of this training course, you will have the ability to: •discuss proper maintenance techniques to minimize problems •explain why vibration will cause premature seal and bearing wear •appraise water leaking into bearing and causing failures •formulate a plan no to run pumps dry causing vibration and cause damage •create a procedure for amperage draw in your preventive maintenance program
TPMAP: Solutions Can Be Healthy(4818)	**2/21/2012**	Operator's Group Meeting	**60**	This course will focus maintenance as it pertains to failures and accident prevention. After completing this course, the student will be able to understand how to:•Condition monitoring•Contamination control•Vibration monitoring•Ferrographic analysis•Spectrographic elemental analysis•Precision maintenance•Operational reliability•ListenBy the end of this training course, you will have the ability to: •create a plant statement: "positive operation equals better outcome" •explain predictive maintenance has additional savings over preventative maintenance •implement a training relationship to operation program •evaluate a proactive contamination control maintenance program •discuss how better filtering reduces the cost and increases the life of the equipment •propose participants will feel a vested interest in the program
Tracing the Path of Water(3384)	**2/21/2012**	Operator's Group Meeting	**60**	JB
Trenchless Technologies: An Introduction(4812)	**2/21/2012**	Operator's Group Meeting	**60**	Trenchless Technologies: An Introduction
Trenchless Technologies:Pipeline & Structure Rehab(4811)	**2/21/2012**	Operator's Group Meeting	**60**	Trenchless Technologies:Pipeline & Structure Rehab

Drinking Water Courses for Renewal Training Credit

UV Disinfection - Sizing UV System Using Bioassay(1440)	**2/21/2012**	Operator's Group Meeting	**60**	A UV system can be designed using the UVDIS program that was developed by HydroQual in Mahwah, New Jersey. This program was developed as a result of extensive field-testing and is presented in the US EPA Design Manual (United States Environmental Protection Agency, 1986). All the major UV companies use this program. The program takes into account the physical characteristics of the UV system, the effluent quality and the disinfection requirements. This program was developed with lamps that were perpendicular to the flow of wastewater but has been subsequently tested by HydroQual for lamps that are parallel to the flow and it is still valid. One of the major parameters in this program is the UV output of the lamp. The UVDIS program was developed with data from UV systems that used a low-pressure mercury lamp (G64T5L) that produced 30 Watts of UV light in air. The assumption that is made is that all UV systems regardless of the type of lamp that they use have the same hydraulics and delivery of UV dose as the systems that were tested to develop the UVDIS program. This course will show that these assumptions are not necessarily true and the information for the UVDIS program should be developed through the testing of actual UV equipment. Before a UV system is installed in a wastewater treatment plant for disinfecting wastewater, it is important to gather enough information to determine whether it is a suitable application and that the UV system is designed to meet the disinfection requirements under the worst case conditions. This paper will give an overview of the major parameters that must be taken into consideration. The major parameters listed in Table 1 below must be taken into consideration when a UV disinfection system is being designed for wastewater. The customer or the consultant must provide this information to the UV system manufacturer since each UV system is designed on an individual basis. By the end of this training course, you will have the ability to: •discuss bioassays and their purpose •indicate design parameters for the UV system •explain how Water hardness and suspended solids affects UV performance •appraise UV transmittance as it cannot be judged by the naked eye •evaluate the parameters affecting the UV disinfection of wastewater •identify UV lamps may not produce the same output in air when compared to water

Drinking Water Courses for Renewal Training Credit

Water Purification(1884)	**2/21/2012**	Operator's Group Meeting	**120**	This two hour short course is the eighth and final part of larger course entitled Basic Chemistry. Water is fundamental to life on this planet. It has been estimated that humans can live for nearly thirty days without food but a person will die within ten days without water. Water covers about 70% of the earth but unfortunately, more than 97% of that water is salt water and cannot be tolerated by humans (or many plants). Of the remainder, most is frozen and therefore not accessible; less than 0.01% of the water on the earth is available and potable. The World Health Organization and Federal and State regulators have set many guidelines for the purity of the water that humans can tolerate. There are many different techniques that may be used to purify water including filtration, clarification, distillation, ion exchange, and membrane separations. In this course, we will discuss the basics of each. Advanced concepts and engineering principles are discussed in the ten-hour Water Purification Techniques by the same author. We will also discuss some of the basic concepts of chemistry but the course is not designed for chemists nor is it designed to turn anyone into one. This course is not designed to be a rigorous study and it will not be necessary to memorize or derive equations. It is suggested that you have a calculator handy to do basic multiplication and division. If you do not have one, there is one on your computer (all windows operating systems have one under Accessories heading in the Programs section in the Start menu). In the real world, if you need an equation or in-depth study of a principle, there are many excellent reference books, the internet, and a host of specialists that can consulted. This course is conceived to impart a good background, an understanding on which to build. Each paragraph reviews a concept necessary to an understanding of water chemistry. Throughout the text, terms that are particularly important are typed in bold. In each section, grayed boxes give hints, rules of thumb, and other notes that help clarify the concepts presented. Examples of most concepts are presented after their discussion with complete solutions explaining the answer and the problem solving process. It is recommended that the problem set be reviewed until the solution is understood. Because each ensuing concept builds on the last, the section should be reviewed until the examples can be answered correctly with confidence. A short test at the end of each of the three sections verifies an understanding of that material. The tests are not intended to be too difficult and there is no intention to be deceptive. Thank you for taking this course.By

Drinking Water Courses for Renewal Training Credit

				the end of this training course, you will have the ability to: •describe different ways to distill water •compare mixed bed exchange units as possibly the best units for purer water •identify various techniques to produce clear water •illustrate different options for filtration •e
Water Reuse - The Florida DEP Program(4189)	**2/21/2012**	Operator's Group Meeting	**120**	Water Reuse - The Florida DEP Program
Water Shortage, Reuse & Resource Management(1925)	**2/21/2012**	Operator's Group Meeting	**60**	Three decades of headline news about water supply by four different governors. How can a state that is a lush, sub-tropical paradise with the second highest annual rainfall in the United States have a water crisis? And how does a large community with no viable water resources within its corporate boundaries, and located in an area where "water wars" between urban and agriculture interests, cities, counties, and regulatory agencies are not uncommon, meet the water needs of its citizens and industries?St. Petersburg, Florida, developed the first, and currently the largest, urban water reclamation system in the U.S. It is the cornerstone of a comprehensive water conservation program. The author shares his 20 years experience directing the water, wastewater, and reclaimed water programs for the City of St. Petersburg, Florida.By the end of this training course, you will have the ability to: •discuss formulation of water reuse and its' importance in water conservation used today •identify the water supply problems of the Tampa Bay Florida area and objectives to minimizing water usage •develop and implementation of a reclaimed water program •evaluation and troubleshooting of a reclaim water system and program •establishment of rules and procedures for a reclaimed water supply program •implementation of an educational outreach program and rate structure for a reclaimed water supply program
Water Treatment Techniques - Distillation(1432)	**2/21/2012**	Operator's Group Meeting	**120**	text base - online

Drinking Water Courses for Renewal Training Credit

Water Treatment Techniques - Filtration(1430)	**2/21/2012**	Operator's Group Meeting	**120**	Course Summary:WTT:FiltrationThis two hour short course is the first part of larger course entitled Water Treatment Techniques. Nearly every municipal water treatment facility in this country employs the unit operation of filtration somewhere in its treatment scheme. "Filtration" encompasses a variety of procedures from rough screening to exclude fish and floating debris to the tightest sub-micron final filtration for sterilization. Filtration may suggest a granular media through which water is trickled or a woven media through which water is suctioned. In any case, the term filtration implies that something is excluded from the stream based on its physical size. We will investigate how filters work, how and where filtration should be applied, and what may go wrong with the process. Though this course is not designed exclusively for engineers, an understanding of basic principles of fluid flow is a suggested prerequisite. This course is not a rigorous study and it will not be necessary to memorize or derive equations. We may also discuss some of the basic concepts of chemistry but the course is not designed for chemists nor is it designed to turn anyone into one. It is suggested that you have a calculator handy to do basic multiplication and division. If you do not have one, there is one on your computer (all windows operating systems have one under Accessories heading in the Programs section in the Start menu). In the real world, if you need an equation or in-depth study of a principle, there are many excellent reference books, the internet, and a host of specialists that can consulted. This course is conceived to impart a good background, an understanding on which to build. Each paragraph reviews a concept necessary to an understanding of water chemistry. Throughout the text, terms that are particularly important are typed in bold. Hovering your cursor over a term in bold will usually bring up a definition for that term. In each section, grayed boxes give hints, rules of thumb, and other notes that help clarify the concepts presented. An example of some of the engineering is presented after the discussion with complete solutions explaining the problem solving process. It is recommended that the problem set be reviewed until the solution is understood. Because each ensuing concept builds on the last, the section should be reviewed until the examples can be answered correctly with confidence. A short test at the end of each of the six sections (three sections per hour) verifies an understanding of that material. The engineering questions that might come up on the tests are deliberately basic and there is no intention to be deceptive. We're

Drinking Water Courses for Renewal Training Credit

				interested in understanding the concepts of filtration, not how well you can use a calculator.By the end of this training course, you will have the ability to: •explain how the lab pure water filters work •describe the different types of filters (realized and refreshed my memory on greensand fil
Water Treatment Techniques - Ion Exchange(1433)	**2/21/2012**	Operator's Group Meeting	**120**	This two hour short course is the fourth part of larger course entitled Water Treatment Techniques. Water is an excellent solvent capable of dissolving a portion of anything it contacts. Because of its solvency, natural water is always contaminated. Most of the contaminants are ionic in nature. "Ion exchange" is a water treatment technique that uses the ionic nature of dissolved contaminants to remove them. In this course, we will discuss some of the basic concepts of chemistry but the course is not designed for chemists nor is it designed to turn anyone into one. An understanding of basic principles of fluid flow is a suggested prerequisite. The course is not a rigorous study and it will not be necessary to memorize or derive equations. It is suggested that you have a calculator handy to do basic multiplication and division. This course is conceived to impart a good background, an understanding on which to build.By the end of this training course, you will have the ability to:•describe the different resins used and the regeneration process •Identify flow measurement device •explain the ion exchange process •identify flow lost due to leak or bypass •discuss the effective troubleshooting techniques for ion exchange •evaluate the process control when incoming flow has decreased

Drinking Water Courses for Renewal Training Credit

Water Treatment Techniques - Membrane Separation(1434)	**2/21/2012**	Operator's Group Meeting	**120**	This two hour short course is the final part of larger course entitled Water Treatment Techniques. Several of the newer water treatment techniques are from the family of membrane separations. Membranes may be used to transport contaminants away from the purified water (as in dialysis, electrodialysis or electrodialysis reversal) or the water may be transported across the membrane leaving the impurities behind (as in micro- and ultrafiltration, nanofiltration or reverse osmosis). This course discusses each of these techniques though much of the course is dedicated to the theory and practice of the reverse osmosis technique. We will also discuss RO system engineering, operation, troubleshooting and performance restoration. The course is not a rigorous study and it will not be necessary to memorize or derive equations. This course is conceived to impart a good background, an understanding on which to build.By the end of this training course, you will have the ability to: •identify the processes which water dissolves into and passes through the membrane, not holes •explains how RO works, the use of nanofiltration, how to clean RO filters •evaluate and troubleshoot diffusion within membrane separation •discuss micro-ultra-nanofiltration utilized in membrane separation •explain - Gives me a better idea on how to manage our membrane filters.

Drinking Water Courses for Renewal Training Credit

Water Treatment Techniques Settling & Clarificatio(1431)	**2/21/2012**	Operator's Group Meeting	**120**	This two hour short course is the second part of larger course entitled Water Treatment Techniques. Settling is, simply put, using the force of gravity to act on contaminants so that they settle leaving clearer water which can be decanted off. Clarification is just settling with a little help. In this course, we will discuss primary settling only. We will not discuss activated sludge treatment. CEU Plan offers several other courses that cover activated sludge treatment in detail. We will discuss several physical and chemical methods used to enhance settling but it is not necessary that you be a chemist or an engineer. An understanding of basic principles of water treatment and some basic chemistry will make the course seem easier but is not required. Though this course is not designed exclusively for engineers, an understanding of basic principles of fluid flow is a suggested prerequisite. We may also discuss some of the basic concepts of chemistry but the course is not designed for chemists nor is it designed to turn anyone into one. This course is not a rigorous study and it will not be necessary to memorize or derive equations. This course is conceived to impart a good background, an understanding on which to build.Course # 98: Course Title = Settling and Clarification (continued)Learning ObjectivesAfter completing this course, the student should be able to: •describe the physical process of sedimentation •explain how settling may be enhanced by physical and chemical means •describe the lime softening process •discuss the variations in the simple processes to achieve "enhanced coagulation" and "enhanced softening" •explain the use of dissolved air floatation
Water's Journey - Part 3(3383)	**2/21/2012**	Operator's Group Meeting	**60**	Study of the Everglades
What is Cryptosporidium?(813)	**2/21/2012**	Operator's Group Meeting	**60**	What is Cryptosporidium?
Wind Turbines & Alternative Energy Resources(4196)	**2/21/2012**	Operator's Group Meeting	**60**	Wind Turbines & Alternative Energy Resources
Your Responsibilities with the Regulatory Agency(2344)	**2/21/2012**	Operator's Group Meeting	**60**	Your Responsibilities with the Regulatory Agency
Common Pitfalls in Chemical Feed(5498)	**8/17/2012**	Operator's Group Meeting	**240**	This four hour course is broken into twelve sections of course material. It is a streaming courses including audio discussion of common mistakes and assumptions within chemical feed systems. This is course is a great refresher or study for certification exams.

Drinking Water Courses for Renewal Training Credit

ERS: Generators(5493)	**8/17/2012**	Operator's Group Meeting	**60**	Part of the series Emergency Response and Safety. This course discusses the loss of power and its effect on treatment works. Looks at several disaster situations and how the loss of power turned the disaster into a catastrophe or the use of EM generators turned the disaster into a mere difficulty.
Field Testing a Double Check Valve Assembly-3 Val(5494)	**8/17/2012**	Operator's Group Meeting	**60**	Instruction of how backflow prevention devices function and how they are tested to evaluate efffectiveness - this course examines the double check valve device assembly.
Field Testing a Pressure Vacuum Breaker BPD(5496)	**8/17/2012**	Operator's Group Meeting	**60**	Field testing of a pressure vacuum breaker backflow prevention device using a three-valve test kit.
Field Testing a Reduced Pressure Principle BPD(5495)	**8/17/2012**	Operator's Group Meeting	**60**	Illustrates field testing of a reduced pressure principle backflow prevention device using a three valve test kit. This course is the second segment of a 3-part series (first segment not required for enrollment in this segment).
Field Testing Spill-Resistant Pressure Vacuum BPD(5497)	**8/17/2012**	Operator's Group Meeting	**60**	Illustrates field testing of a spill-resistant pressure vacuum breaker backflow prevention device using a three valve test kit.
Introduction to Concrete Pressure Pipe(5492)	**8/17/2012**	Operator's Group Meeting	**60**	Illustrates the AWWA Standards for concrete pressure pipe, design and installation considerations, and fabrication techniques utilized. Discusses various custom fittings, troubleshooting. FLASH required.
Lime/Soda Ash Softening for Water Plant Operators(5491)	**8/17/2012**	Operator's Group Meeting	**60**	Softening for water treatment operators.
Math for Water Plant and Distribution(5489)	**8/17/2012**	Operator's Group Meeting	**60**	Mathmatics of a Treatment Process: formulas and examples.
Principles of Chlorination & Dechlorination(5490)	**8/17/2012**	Operator's Group Meeting	**180**	Course looks at the most common mistakes DW/WW systems make using Hypochlorite and liquid-based De-chlorinating agents, on-site generation, strength of hyposchlorite, alternate de-chlorinating methjods, instrumentation for measuring , calculations, calibration, hadling, safety.
Reasonable Security Measures to Protect Your Plant(5499)	**8/17/2012**	Operator's Group Meeting	**60**	Ten measures to asssure a better-protected small DW/WW treatment plant against natural impacts, misuse or vandalism. Measures are intended to be implemented with little cost and time for small operations with limited ability to pursue expensive security activities or spend significant amounts of time.
Laboratory Safety - Complete Course(925)	**12/10/2013**	Operator's Group Meeting	**300**	5 sections with this course. Overview, lab safety program, lab guidelines part 1, lab guidelines part 2, and part 3. Each section worth 1 hour AND HAS OWN COURSE NUMBER.

Drinking Water Courses for Renewal Training Credit

CH2M Hill(425)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Project Tools: PEG & OCR(4519)	**7/28/2011**	Conference/Seminar	**60**	FOR CH2MHILL EMPLOYEES ONLY: This course will clarify why the information gathered through PEG and OCR is important to the O&MBG and part of the regular GLT report. In this class, the mechanics of how to download and complete a PEG are covered. The facilitator also discusses how tier levels are determined, what documentation is sent to OCR, and how next level managers should manage and set up tier conference calls.
Spill Prevention, Control, and Countermeasures Pla(7055)	**1/30/2013**	Conference/Seminar	**60**	Addresses the applicability and requirements for a Spill Prvention, Control and Countermeasures Plan (SPCC); training and inspection requirements, facility maps, reporting requirements to the National Response Center and EPA.
Method Update Rule & Online Standard Methods(7310)	**5/1/2013**	Teleconference	**60**	FOR CH2MHILL EMPLOYEES ONLY. This course addresses the new regulations Methods Update Rule (MUR) and the Online version of Standard Methods. It dissects the MUR and highlights the parts that have the most applicability to our projects and treatment facilities. The training concludes with a question and answer period.
Module 8: Search & Seizure, Your Legal Rights(7309)	**5/1/2013**	Conference/Seminar	**120**	FOR CH2M HILL EMPLOYEES ONLY. This training session will inform associates of their rights under the law. Specifically, the course covers legal rights on the job and how associates should protect themselves and the company if faced with a legal search at any job site. Though the likelihood of a legal search is VERY small, if one DOES occur, this course will highlight important points to remember and follow. It will also discuss how to handle requests for legal documents if served with a subpoena or other request.
Stationary Reciprocating Internal Combustion Engin(7311)	**5/1/2013**	Teleconference	**60**	FOR CH2MHILL EMPLOYEES ONLY. This course will cover the federal requirements for Stationary Reciprocating Internal Combustion Engines (RICE). The RICE Rule was recently updated and the class discussed those changes as well as the compliance dates. The course also covers an overview of the Rule and how to determine applicability.

Drinking Water Courses for Renewal Training Credit

Module 3: Little Ways to Get in Big Trouble(7382)	**6/1/2013**	Conference/Seminar	**180**	As a result of attending this training, associates will have a deeper understanding of how legal issues surrounding our work can be interpreted by regulators and customers. They will also be aware of seemingly meaningless situations that can lead to misinterpretations and decreased trust. Associates are taught how to avoid these situations, be attentive to details and operate in a way that removes misunderstandings.
Disasters! Hurricanes and Business Continuity Plan(7610)	**8/22/2013**	Conference/Seminar	**60**	FOR CH2MHILL EMPLOYEES ONLY. This course addresses potential disasters and hazards that could adversly effect our water/wastewater treatment facilities and operations. We will look at water sector guidance for Business Continuity Planning (BCP) issued by the WRF, in collaboration with the EPA and AWWA, and the template that accompanies it. Associates will be taught how to complete one section of the BCP in detail: Mission essential functions (MEF). As a result of attending this training, associates will know how to develop a Business Continuity Plan, how that plan coordinates with other emergency plans they have already developed, and where to get assistance with BCP development or other emergency planning. Associates will be given an opportunity to clarify information and ask questions at the end of training. Associates will also be given contact information if they require assistance with their BCP.
Facility Security: Guns, Gates and Guards(7611)	**8/22/2013**	Conference/Seminar	**60**	As a result of attending this training, associates will know what suspicious behavior to watch for in and around our water/wastewater facilities and to whom to report it. They will be familiar with the water sector standards for utility responsibilities and elements of a physically security facility. Associates will be given an opportunity to clarify information and ask questions at the end of training. Associates will also be given contact information if they have questions or need assistance with security.

Drinking Water Courses for Renewal Training Credit

DMR Preparation(8126)	**1/1/2014**	Presentation	**60**	CH2M HILL employees only - An essential element of Perfect Compliance is a relationship with regulators that is based upon mutual respect and confidence in the expertise of our project management staff. That confidence can be irreparably damaged by the submission of Discharge Monitoring Reports (DMRs) that contain erroneous information. The purpose of this course is to review all of the procedures associated the preparation of DMRs and to outline a strategy for a comprehensive review of DMRs before submission to the regulator. By submitting timely and accurate DMRs, we strengthen the confidence level of regulators in our ability to effectively manage wastewater operations.
Matrix Spike and Matrix Spike Duplicates(8128)	**1/1/2014**	Presentation	**60**	CH2M HILL employees only - As of December 2013, MUR requirements must now be fully implemented at each facility. One of the more complex QC elements, “Matrix Spike”(MS) and “Matrix Spike Duplicate”(MSD), will be addressed in this course. In this class, we will walk through the definition of a MS and MSD, the entire procedure of how to prepare, implement and analyze these samples, and how to incorporate them into your data collection. Attendees will include staff at CH2M HILL projects that operate on-site laboratories and are required to comply with the MUR requirements. Attendees will understand their responsibilties and what steps they need to take in order to be in Perfect Compliance with the corresponding MUR requirements. Associates will also know who to contact if they have questions.
MUR Compliant QC Stats(8143)	**1/1/2014**	Presentation	**60**	FOR CH@MHILL EMPLOYEES ONLY: The MUR requirements, which were required to be fully implemented by December 2013, not only effects your Lab SOPs and your lab procedures but also effects the QC Stats Report. The report continues to measure precision and accuracy for each analyzed parameter, but there are also some new features/requirements like new tabs for matrix spike and matrix spike duplication. This training is designed to walk you through the use of the QC Stats and to address any questions you may have. Attendees will understand their responsibilties and what steps they need to take in order to be in Perfect Compliance with the corresponding MUR requirements. Associates will also know who to contact if they have questions. We expect that attendees will either confirm that they are in compliance or immediately begin to perform tasks in order to come into compliance. Compliance will be confirmed at future site visits.

Drinking Water Courses for Renewal Training Credit

Workplace Violence and Active Shooter Response(8144)	**1/1/2014**	Presentation	**60**	FOR CH2MHILL EMPLOYEES ONLY: As a result of attending this training, associates will know what suspicious behavior to watch for in and around our water/wastewater facilities and to whom to report it. They will know what to do, per Department of Homeland Security guidance, if they are involved in an active shooter situation.Associates will be given an opportunity to clarify information and ask questions at the end of training. Associates will also be given contact information if they have questions or need assistance with security.
Introduction to Incident Command System(8511)	**6/11/2014**	Lecture	**90**	FOR CH2M HILL EMPLOYEES ONLY. The Incident Command System (ICS) is a standardized, on-scene, all-hazards incident management approach to emergencies/incidents that complies with Presidential directive and the National Incident Management System (NIMS). ICS allows all entities involved in the emergency/incident to be able to work with and communication with other governmental and private entities in a seamless and effective manner in order to reduce loss of life, property and harm to the environment. This course provides an introduction to the Incident Command System. As a result of this training, associates will understand the ICS, as part of the National Incident Management System (NIMS) approach. They will be able to work with and communication with other governmental and private entities in a seamless and effective manner. This will reduce loss of life, property and harm to the environment. After the course, participants will be provided with a link to take an online exam of the material. If they pass, they will receive a certificate of completion from FEMA.

Chemical Pump Sales and Service(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Chemical System Training(8478)	**5/21/2014**	Classroom and Hands-on	**60**	Covers types of chemical systems - gas and liquid. Typical problems associated with both, along with solutions, maintenance and repair

City Water, Light & Power(75)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
2015 Hazardous Material Refresher(9841)	**9/29/2015**	Classroom and Hands-on	**420**	Relating to Ammonia and Chlorine. Chemical Properties, process, Donning and Doffing Level A Suites, monitoring and Level A drill

Drinking Water Courses for Renewal Training Credit

Cla-Val(357)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Electronic Control Valves(7031)	1/24/2013	On-line Class	60	Control valves and how they can be operated electronically. Use of SCADA with these types of valves.
Operation, Maintenance and Troubleshooting of Auto(7050)	1/24/2013	Classroom and Hands-on	240	Control valves for potable water systems

Clow Valve Company(173)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Clow Valve Company Plant Tour(742)	3/15/2012	Classroom and Hands-on	360	Tour of the manufacturing plant and hands-on training for hydrants and valves. JLE
Hydrant and Valve Operation and Maintenance(548)	3/15/2012	Demonstration	120	Hydrant and valve maintenance.
Field Repair on Hydrants and Valves(4849)	3/22/2012	Classroom and Hands-on	240	Field training on hydrants and valves, repairs.

Clow Water(963)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
When It Matters Use Ductile Iron Pipe(8209)	3/14/2014	Conference/Seminar	60	Water mains and service connections
Pipe 101(8249)	3/28/2014	DVD	60	Basic pipe introduction, a video showing production of the pipe. Different pipe joints, fittings, etc.

College of Lake County(114)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Basic Waterworks Operation WWW 113-001(6768)	1/1/2013	Conference/Seminar	2100	16-week college course offered one semester/year. Teaches the basics of potable water related to the IEPA Class C and D

DPC Enterprises(303)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Chlorine Safety and Handling(1051)	2/1/2012	Operator's Group Meeting	120	First approved 3/19/02. 3/30/11 Chlorine institute videos, chlorine safety & handling, A-Kit Repair, first responder video for chlorine, review, Q & A and quiz. AR

Ductile Iron Pipe Research Association (DIPRA)(160)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

DI Pipe in AC Right of Ways(462)	1/9/2002	Other	60	Safety concerns and design considerations for installing DI Pipe in AC Right of Way.
Corrosion Control for DI Pipe(460)	10/11/2012	Other	60	Basics of electrochemical corrosion and use of polyethylene encasements
Design of DI Pipe(459)	10/11/2012	Other	60	Wall thickness, design of DI pipe
DI Pipe on Supports(466)	10/11/2012	Other	60	Design and installation considerations for pipe on supports - bridge crossing, pipe on driven piles, unstable soils, etc.
DI vs. Concrete Pipes(469)	10/11/2012	Other	60	Prestressed Concrete Cylinder Pipe, strength, hydraulics, permeation, installation.
DI vs. HDPE Pipes(468)	10/11/2012	Other	60	High density polyethylene pipe, permeation, hydraulics, strenght, tapping.
DI vs. PVC Pipes(467)	10/11/2012	Other	60	Theory & design, strenght of materials, hydraulics, permeation, tapping, comparisons.
DI vs. Steel Pipes(470)	10/11/2012	Other	60	Comparison of design, manufacture, corrosion control, installation, etc.
DIPRA Corrosion School(463)	10/11/2012	Other	420	Basics of corrosion control, resisitivity, the 10 point system, history & development of polyethylene encasement.
Horizontal Directional Drilling(5537)	10/11/2012	Other	60	Use of restrained joint, polyethylene-encased DI pipe for a common trenchless method of pipe installation. Review of basic design, tools and fluids for the work and job experiences for this installation tool.
Installation of D I Pipe(464)	10/11/2012	Other	60	Review proper installation of D I Pipe.a
Manufacture & Features of DI Pipe(458)	10/11/2012	Other	60	Details AWWA standards for Ductile Iron Pipes
Stray Current Corrosion(461)	10/11/2012	Other	60	Identifying sources of stray current and rare occurance of severe condition.
Subaqueous Pipelines(471)	10/11/2012	Other	60	Review of design, permit and installation methods for water crossing with D I Pipe.
Thrust Restraint(465)	10/11/2012	Other	60	Design & installation of trust restraint systems including blcocks, restrainined joint systems, tie rods, etc.

Echologics Engineering, Inc.(684)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Fundamentals of Leak Detection(2678)	7/10/2007	On-line Class	420	JB
Water Leak Detection(2676)	7/10/2007	On-line Class	900	JB

Drinking Water Courses for Renewal Training Credit

Education and Training Services(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Public Utilities & Waterworks Management Institute(7792)	11/13/2013	DVD	1200	Utility leadership skills: Foundations of Leadership; The Leader's Role in Performance Management; Collaboration and Teams; Managing Conflict; The Leadership of Change. No partial credit given by trainer. 3 day event. Next event Elgin IL Sept 8 - 10, 2014.

Environmental Resource Training Center(10)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Cross Connection Control(16)	1/7/2000	Conference/Seminar	1440	Workshop includes theory and application of backflow devices, RPZ's, atmospheric vaccuum breaker, control assembly, testing practices, thermal expansion, installation and maintenance safety. Credit is not given for the written exam. 23.5 Hours RTC. Barb and Jewel
Class A Water I(1231)	8/20/2003	Conference/Seminar	480	Drinking Water Training Reimbursement Program. All classes are approved for 7.5 hours RTC. JB
Class A Water II(1325)	11/26/2003	Conference/Seminar	480	DWTRP - Class A Module II
Class B Water II(1327)	11/26/2003	Conference/Seminar	480	DWTRP - Class B Module II
Class C Water II(1329)	11/26/2003	Conference/Seminar	480	DWTRP - Class Module II
Class D Water I(1331)	11/26/2003	Conference/Seminar	480	DWTRP - Class D Module I
Water Distribution System Operation and Maintenanc(1478)	3/1/2004	Workshop	5400	Chapter Contents: The Water System Operator, Storage Facilities, Dist. System Facilities, Water Quality Considerations, Operation and Maintenance, Disinfection, Safety.
Water Short School(1807)	12/1/2004	Conference/Seminar	1800	Intro to groundwater, surface water, distribution rules, regs, reporting, testing; math review; TCR, X-Connect, corrosion control, storage, pumps, wells, hydrants, meters, valves, lab chemistry, surface water treatment, filtration, ion exchange, lime softening, groundwater treatment, chlorination and fluoridation. Yearly course, 4 days of instruction, IEPA certification exam 5th day.
A & B Water Short Course(2064)	9/19/2005	Conference/Seminar	1350	Class A & B Water Short School
Pumps & Pumping(2752)	10/23/2007	Classroom/College	900	Pumps & Electrical Maintenance

Drinking Water Courses for Renewal Training Credit

Water Treatment Plant Operation Volume II(4382)	**1/1/2012**	Workshop	**5400**	Chapter Contents: 12. Iron and Manganese Control 13. Fluoridation 14. Softening 15. Trihalomethanes 16. Demineralization 17. Handling and Disposal of Process Wastes 18. Maintenance 19. Instrumentation 20. Safety 21. Advanced Laboratory Procedures 22. Drinking Water Regulations 23. Administration
Small Water System Operation and Maintenance(1724)	**4/18/2012**	Workshop	**3600**	Chapter Contents: Small Water System Operator, Water Sources & Treatment, Wells, Small Water Treatment Plants, Disinfection, Safety, Laboratory Procedures, Setting Water Rates for Small Water Utilities.
Backflow Preventer Testing Update(17)	**5/9/2012**	Conference/Seminar	**480**	This course is ONLY for persons who have completed the four-day Cross Connection Control course. This course provides an opportunity to practice testing double check valve and RPZ backflow preventers and be introduced to current testing procedures, such as the direction of flow procedure.
C & D Water Short Course (3 Days)(5331)	**7/1/2012**	Conference/Seminar	**1350**	C & D Water Short Course (3 Days)
Operation of Wastewater Treatment Plants Vol II(9664)	**6/1/2015**	Workshop	**5400**	Chapter Contents: 11. Activated Sludge (Conventional Plants) 12. Sludge Digestion and Solids Handling 13. Effluent Disposal 14. Plant Safety and Good Housekeeping 15. Maintenance 16. Laboratory Procedures and Chemistry 17. Applications of Computers for Plant O & M 18. Analysis and Presentation of Data 19. Records and Report Writing
Basic Wastewater Treatment(9633)	**8/24/2015**	Conference/Seminar	**2700**	Sources and characteristics of wastewater are taught. Topics include biological treatment principles, process control, normal operation and preventative maintenance of collection systems, preliminary treatment devices, primary treatment devices, stabilization ponds and disinfection systems. Federal and state laws, rules and regulations are also discussed.

Drinking Water Courses for Renewal Training Credit

Microbiology in Wastewater Operations(9630)	**10/26/2015**	Classroom and Hands-on	**900**	The two-day seminar will be presented by Toni Glymph-Martin, microbiologist with the Water Reclamation District of Greater Chicago. Toni has over 20 years of experience specializing in microbiology of wastewater treatment systems. Her unique teaching technique makes learning about "the bugs" and their role in wastewater treatment interesting and very informative. The course will cover the identification, troubleshooting, and the role the bugs play in the operations and treatment of wastewater, including biological nutrient removal. Proper microscope operations will also be covered. Participants are encouraged to bring their own microscopes. This course is recommended for: wastewater operators, microbiologists, laboratory technicians, and engineers. On the Campus of Southern Illinois University Edwardsville

Evanston, City of(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Chlorine Cylinder Change(8220)	**4/1/2014**	Classroom and Hands-on	**60**	Under close supervision by the instructor, this hands-on training requires the operators to change an active bank of four 1-ton cylinders. Operators are instructed and observed on the proper operation of the cylinder hoist, the proper sequence of cylinder valve operation, and leak detection during a cylinder change. Performance is evaluated and discussed following the cylinder change.
Chlorine Leak Drills(8219)	**4/1/2014**	Classroom and Hands-on	**60**	The instructor simulates a chlorine leak. Two operators are assigned to respond as if it were an actual leak occurring during off-hours. Operators are required to assess severity and location of the leak, simulate Fire Department notification if necessary, don appropriate PPE, and isolate the chlorine leak. The SCBA and A & B emergency repair kits will actually be used. The rest of the training group observes and critiques the operators at the end of the simulation.
Chlorine Video(8215)	**4/1/2014**	Classroom/College	**60**	Operators view a 23-minute video on chlorine safety and emergency response procedures (Chlorine Safety, AWWA). The video covers physical characteristics of liquid and gaseous chlorine, safety parameters such as IDLH/TWA/STEL, and safe handling of chlorine gas. A quiz is administered following the video. The instructor reviews the quiz and then conducts a question/answer session with the operators to further review the topics covered in the video.

Contingency Plan(8218)	4/1/2014	Classroom/College	60	Contingency planning in the event of a chlorine leak is discussed in detail. The instructor runs through several scenarios to outline the appropriate actions to be taken depending on the leak location and severity. This includes proper use of PPE, methods of locating and isolating the chlorine leak within the plant, and notification requirements for plant staff and the surrounding area.
Use of Emergency Repair A-Kit(8216)	4/1/2014	Classroom and Hands-on	60	The operators are instructed on the theory and proper use of the A-kit (emergency repair kit for 150-pound chlorine cylinders). Proper use of the kit is demonstrated on a dummy chlorine cylinder with simulated leaks on the sidewall, fusible plug, and valve area. The operators are then given a mock leak and required to install the appropriate repair kit part correctly. Performance is evaluated and discussed following the mock repair.
Use of Emergency Repair B-Kit(8217)	4/1/2014	Classroom and Hands-on	60	The operators are instructed on the theory and proper use of the B-kit (emergency repair kit for 1-ton chlorine cylinders). Proper use of the kit is demonstrated on a dummy chlorine cylinder with simulated leaks on the sidewall, fusible plug, and valve area. The operators are then given a mock leak and required to install the appropriate repair kit part correctly. Performance is evaluated and discussed following the mock repair.
Use of Self-Contained Breathing Apparatus (SCBA)(8214)	4/1/2014	Classroom and Hands-on	60	The operators are instructed on the theory of operation, capabilities, limitations, and proper use of the self-contained breathing apparatus (SCBA) during a chlorine leak. Operators are then required to correctly don the SCBA and operate it. Proper tank replacement is also discussed and practiced.

Federal Emergency Management Agency(215)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
IS-00200.b ICS for Single Resources and Initial Ac(8195)	7/22/2013	Conference/Seminar	180	ICS for single resources and initial action incident for knowledge of command structure and use of resources.
IS-00800.b National Response Framework, An Introdu(8197)	7/29/2013	Conference/Seminar	180	An introduction to the national response framework for regional and national emergency response.
IS-00700.a National Incident Management System (NI(8196)	8/14/2013	Conference/Seminar	180	Intro to National Incident Management System for proper inter-action with other emergency response entities.

Drinking Water Courses for Renewal Training Credit

IS-100.B: Introduction to Incident Command System,(7689)	9/11/2013	Operator's Group Meeting	180	ICS 100, Introduction to the Incident Command System, introduces the Incident Command System (ICS) and provides the foundation for higher level ICS training. This course describes the history, features and principles, and organizational structure of the Incident Command System. It also explains the relationship between ICS and the National Incident Management System (NIMS). First online 10/12/2010.
IS-547.A: Introduction to Continuity of Operations(8402)	10/13/2013	Operator's Group Meeting	120	This course is to be completed after taking the IS-546.a - Continuity of Operations Awareness Course. The IS 547.a course describes the Continuity Management Cycle and how it should be used to develop sound continuity of operations plans.

Fifteen County Water Supply Operators Association(41)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Managing Your Water Utility with Cellular AMA/AMI(8886)	10/15/2015	Conference/Seminar	60	Managing your water utility with cellular AMA/AMI
Pumps and Scada(8885)	10/15/2015	Conference/Seminar	60	Pumps and Scada
Regulatory Update(8887)	12/17/2015	Conference/Seminar	60	Regulatory Update

Firnbach, Donn(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Applied Mathmatics for Water Treatment(8385)	5/1/2014	Conference/Seminar	180	Training will be provided to calculate surface area, volume in MG, and flows and velocities. Also conversion formulas to calculate head pressure and temp.
Disinfecting Storage Facilities, Water Main and Ch(8386)	5/1/2014	Conference/Seminar	180	Operators will learn the three AWWA approved methods for disinfecting storage tanks and calculations for chlorinating water fmains and chemical dosing.
Fundamentals of Iron Removal Treatment(8387)	5/1/2014	Classroom and Hands-on	180	Participants will be trained to record data on the mothly log, take all residuals, backwash the filter and restore to normal operation.

First-In Rescue Training, LLC(965)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Driver Safety(9897)	10/12/2015	Classroom and Hands-on	240	Driver safety training

FirstNet Learning(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Arc Flash Awareness(8547)	**7/1/2014**	Operator's Group Meeting	**30**	This course covers the safety issues related to arc flashes and blasts. Topics include safety in avoiding injuries and fatalities, approach boundaries, using proper PPE, and lockout/tagout procedures. The course provides an overview of OSHA Standards 29-CFR, Part 1910 and National Fire Protection Association (NFPA) Standard 70E.
Asbestos Awareness(8527)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers health hazards and protective measures related to asbestos. Topics include locations where asbestos is commonly found, requirements for signs and labels, circumstances where employees may risk asbestos exposure, exposure prevention safety measures, asbestos-related illnesses, and OSHA's required medical program. This course covers OSHA standard 29 CFR 1910.1001.
Back Safety(8538)	**7/1/2014**	Operator's Group Meeting	**30**	This course is about general safety awareness information regarding job specific hazards, safe work practices, and ergonomics. Topics include basic risk identification skills, conducting ergonomics assessments and health screenings, and engineering control available for implementation. This course primarily covers OSHA 29 CRF 1903.1.
Bloodborne Pathogens(8542)	**7/1/2014**	Operator's Group Meeting	**60**	This course is designed to minimize the health risks to workers exposed to blood and other potentially infectious materials. Topics include the definition of bloodborne pathogens, symptoms of the diseases they cause and modes of transmission; Exposure Control Plans; universal precautions, engineering controls, work practices, and personal protection equipment; decontamination and disposal; hepatitis B vaccines and emergency procedures related to exposure incidents. This course primarily covers OSHA 29 CFR 1910.1030.
Compressed Gas Safety(8539)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers how employers and employees can work safety with compressed gases by controlling the physical and health hazards associated with them. Topics include physical properties of widely used compressed gases; inspection of cylinders, regulators, and fittings; handling and storage of compressed gases; safety relief devices for compressed gas containers; basic hazard recognition and control procedures; and responding to emergencies. The course provides an overview of OSHA's 29 CFR 1910.101.

Drinking Water Courses for Renewal Training Credit

Confined Space Entry(8545)	**7/1/2014**	Operator's Group Meeting	**60**	This course provides information about working safely in confined spaces and hazardous atmospheres and necessary equipment and permits. Topics include definitions and identification of hazards related to confined spaces and hazardous atmospheres; duties of a confined space attendant; equipment, pre-entry requirements, and point-of-entry permits. This course provides an overview of OSHA 29 CFR 1910.146.
Defensive Driving(8548)	**7/1/2014**	Operator's Group Meeting	**60**	This course provides general vehicle safety information designed to heighten awareness and minimize the risk of involvement in a vehicular accident. Topics include defensive driving and you, making good choices, driving safely as a state of mind, hazards outside your control, and vehicle protection systems.
Electrical Safety(8526)	**7/1/2014**	Operator's Group Meeting	**60**	This course provides electrical safety practices and distinguishing exposed live parts from other parts of electrical equipment. Topics include general safety-related work practices, clearance distances, voltages, ground fault protection on construction sites, recognition of hazardous classified locations, and additional safety practices that are not addressed by federal law.
Emergency and Disaster Preparedness(8536)	**7/1/2014**	Operator's Group Meeting	**30**	This course provides instruction on emergency response, safety, reporting, and evacuation of company facilities in the event of a natural disaster, fire, bomb threat, or other emergency.
Fall Protection(8528)	**7/1/2014**	Operator's Group Meeting	**30**	This course is about the basic fall protection principles for employees who might be exposed to fall hazards. Topic include fall hazards in work areas; fall protection systems; methods for minimizing fall hazards; the role of the employee in fall protection plans and safety monitoring systems; equipment limitations in low-sloped roof work; and correct procedures for equipment, materials handling and storage, and erection of overheard protection. This course provides an overview of OSHA 29 CFR 1910 Subparts D and F and 1926 Subparts E. L, M, P, and X.
Fire Prevention(8529)	**7/1/2014**	Operator's Group Meeting	**30**	This course is about the basic fire safety principles, the recognition and prevention of potential fire hazards and proper emergency procedures such as proper fire extinguisher operation and maintenance. Topics include those required by the OSHA Workplace Fire Protection Program, including the responsibility of employers to provide proper exits; fire fighting equipment; and employee training to prevent fire, death, and injury in the workplace. This course primarily covers OSHA 29 CFR 1910.38 and 29 CFR 1926 Subparts E and F.

Drinking Water Courses for Renewal Training Credit

First Aid and CPR Academic Training(8533)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers basic First Aid and CPR practices in the workplace though does not provide certification for either. Topics include appropriate responses to emergency situations such as bleeding, shock, burns, eye injuries, heart attack, fractures, and exposure to chemicals. The goal of the course is to give employees the confidence to face emergency and first aid situations, knowing where their responsibilities begin and end. OSHA: 29 CFR 1910.152 [Reserved] Subpart K; 29 CFR 1910.151 Subpart K
Forklift Safety(8530)	**7/1/2014**	Operator's Group Meeting	**60**	This course provides students with the necessary academic training required to become a qualified forklift operator. Topics include forklift physics, proper forklift operation and safety practices, general preventive maintenance practices, and safe refueling and recharging procedures. Many practical exercises are provided and good habits are illustrated. This course mainly covers OSHA 29 CFR 1910.178.
Hand and Power Tool Safety(8537)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers the potential hazards associated with the use of hand and power tools as well as the safety precautions required to prevent those hazards from occurring, including guards and safety switches. Power tool hazards and prevention measures are addressed by the power source used: electrical, pneumatic, liquid-fueled, hydraulic, and powder-actuated. This course provides an overview of OSHA 29 CFR 1926 Subpart I and 29 CFR 1910 Subpart P.
Hazard Communication - New GHS Standards(8531)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers OSHA's Hazard Communication Standard (HAZCOM), 29 CRF 1910.1200, which requires that hazardous materials used at the work site are identified, labeled, handled, used, and disposed of properly. Topics include chemical states, employer and employee responsibilities, company goals, and federal agencies that regulate workplace chemicals. The goal of the course is to prevent or minimize employee exposure to hazardous materials and to minimize their accidental release in the work environment. This course covers the 2012 changes to SDS, labeling, and GHS.
Hearing Conservation(8532)	**7/1/2014**	Operator's Group Meeting	**30**	This course is about the purpose and components of OSHA's Hearing Conservation Program in the prevention of noise-induced hearing loss. Topics include audiometric testing and the advantages, disadvantages, proper fitting, use, and care of various types of hearing protectors. This course primarily covers OSHA 1910.95.

Drinking Water Courses for Renewal Training Credit

Ladder and Scaffolding Safety(8541)	**7/1/2014**	Operator's Group Meeting	**30**	This course is about how to recognize, control or minimize the hazards associated with ladders, stairways, and scaffolding used at worksites. Topics include ladder and scaffold hazards; construction, use, placement, care, and handling of ladders; important safety features; correct procedures for erecting and moving ladders and scaffolding; fall protection devices; and electrical hazard safety guidelines. This course provides an overview of OSHA 29 CRF 1926.1060 Subpart X and 1926.454 Subpart L.
Lockout Tagout Training(8540)	**7/1/2014**	Operator's Group Meeting	**60**	This course is about the control of hazardous energy and work under the protection of a lockout/tagout permit. Topics include the purpose of lockout/tagout programs, limitations of tags, and hazards of operating machines or equipment that have been locked or tagged out. This course primarily covers OSHA 29 CRF 1910.147.
Personal Protective Equipment(8546)	**7/1/2014**	Operator's Group Meeting	**60**	This course is about the types of personal protective equipment (PPE); when personal protective equipment is necessary; and the selection, use, and maintenance of personal protective equipment in the workplace. Topics include how to don, doff, adjust, and wear PPE; limitations of PPE; and the proper care, useful life, and disposal of PPE. The following OSHA regulations are covered in this course: 29 CFR 1910.95 Occupational Noise Exposure Standard and 29 CFR 132-136 plus 138, covering general requirements, eye and face protection, respiratory protection, head protection, occupational foot protection, and hand protection.
Respiratory Protection(8534)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers respiratory hazards, protection mechanisms, safe work practices, and use of respiratory protection against hazardous airborne contaminants in the work environment. Topics include employer and employee responsibilities; the nature, extend, and effects of respiratory hazards; the operation, limitations, and capabilities of respirators; and respirator selection, use, inspection, maintenance, cleaning, storage, and malfunctions. This course covers primarily OSHA's 29 CFR 1910 Subpart I.
Slips, Trips and Falls(8549)	**7/1/2014**	Operator's Group Meeting	**30**	This is about recognition and prevention of slip, trip, and fall hazards. Topics include OSHA requirements for housekeeping; aisles and passageways; covers and guardrails; floor loading protection; and fixed industrial stairs, ladders, scaffolding, and manually-propelled mobile ladder stand and scaffold (towers). This course provides and overview of OSHA 29 CRF 1910 Subparts D and F and 1926 Subparts E, L, M, P, and X.

Drinking Water Courses for Renewal Training Credit

Trenching and Excavation Safety(8535)	**7/1/2014**	Operator's Group Meeting	**60**	This course covers health and safety concerns unique to trenching and excavating. Topics include confined space requirements, safety principles, site assessment, causes of fatalities, factors to consider before trenching and excavating, and types of excavation methods. This course provides an overview of OSHA's 29 CFR 1926.650 Subpart P.

Fischer, Harris & Associates(257)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Pipe Connections, Valve Insertions/Capital Improve(6828)	**12/5/2012**	Conference/Seminar	**60**	Assembly and restraint of mechanical joint fittings, couplings, solid sleeves and techniques for installing new valves in existing piping. Monthly at municipal water offices or at Operator Workshops.
Pipe Joint Assembly & Restraint(9526)	**10/29/2013**	Conference/Seminar	**60**	Mechanical joint installation, coupling restraints, etc.
Pipe Joint Assembly By the Book(8839)	**11/18/2014**	Conference/Seminar	**60**	This presentation will provide a detailed discussion of the applicable AWWA and Manufacturer standards for the proper installation of Ductile and PVC pipe joints, assembly of mechanical joint fittings and joint restraint devices.
Pipe Joint Restraint Installation & Pressure Testi(9812)	**8/25/2015**	Classroom and Hands-on	**120**	Assembly and testing of joint restraint on pipe samples. Water mains and service connections.

Ford Meter Box Co.(378)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
TroubleShooting:How to Recognize Improper Install(5142)	**5/10/2012**	Classroom and Hands-on	**60**	This Power Point Presentation consists of 50 slides total. The slides are pictures of products returned to the manufacturer with the claim of being defective. This presentation goes through the process of how the Ford Factory Product Assurance Lab looks at and determines whether the product defect was caused by a manufacturing issues or an installation error. As we continue through this thought process, we will also discuss proper installation procedures.
Water Services from Main to Meter(8198)	**3/3/2014**	Conference/Seminar	**150**	Ford Meter pipeline and meter equipment and services.
Pipe Repair Equipment(5140)	**5/10/2015**	Classroom and Hands-on	**30**	Power Point presentation featuring 25 slides describing the different types of repair products for pipeline repair, service line repair, and installation practices.

Gallagher Bassett Service Inc.(151)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

DOT Flagger Training(7075)	2/18/2013	Conference/Seminar	240	Safety

Gasvoda and Associates(509)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Chemical Equipment Maintenance Training(9831)	9/15/2015	Classroom and Hands-on	120	Chemical feeding and or calculations; pumps; safety.
Chemical System Training: Gas & Liquid Chemicals(9830)	9/15/2015	Classroom and Hands-on	60	Chemical feeding and or calculations; pumps; safety.

Grundfos(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Advantages of Stepper Motor Design in Metering Pum(9169)	1/10/2015	Conference/Seminar	60	Demo plus going through screens and buttons to simulate real life situations

HD Supply Waterworks(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
HD Supply Operator's Training(9281)	2/26/2015	DVD	60	GIS, field tool selection and use.

Highland Park, City of(102)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
CUMMINS Diesel Stand-by Generators(8561)	1/23/2014	Classroom and Hands-on	300	Teory, installation, operation and maintenance of Cummins (brand) stand-by diesel generatorts
EATON Motor Control Centers(8555)	2/25/2014	Classroom and Hands-on	270	Eaton (brand) Motor Control Centers: Features, theory, installation, operatin and maintenance. Includes classroom and hands-on training (Video-recoreded for review and training of future Operators)
EATON Power Transformers – Substation Transformers(8556)	2/25/2014	Classroom and Hands-on	120	Theory, installation, operation & maintenance of Eaton (brand) power transformers
EATON Low Voltage Switchboard Assembly(8558)	6/4/2014	Classroom and Hands-on	120	Theory, installation, operation & maintenance of Eaton (brand) low voltage switchboards
EATON Automatic Transfer Switches(8557)	6/4/2014	Classroom and Hands-on	120	Theory, installation, operation and maintenance of several types of Eaton (brand) automatic power transfer switches.
EATON Low Voltage Switchgear Assembly(8559)	6/4/2014	Classroom and Hands-on	120	Theory, installation, operation & maintenance of low voltage swirtchgear

Drinking Water Courses for Renewal Training Credit

EATON Low Voltage Variable Frequency Drives(8560)	**6/4/2014**	Classroom and Hands-on	**120**	Theory, installation, operaion and maintenance of Low Voltage Variable Frequency Drives

Hydro, Inc.(845)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
HydroAire Centrifugal Pump(3725)	**1/22/2010**	On-line Class	**360**	jb

IDEXX Laboratories Water(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Bacterial Testing for Fecal Coliforms & E. coli in(9829)	**9/10/2015**	Operator's Group Meeting	**90**	Introduction and What is IDEXXIntroduction to MicrobiologyWastewater MethodsATP Process & Update on MURQuality ControlReuse WaterProtocol for Reviewing Methods

Illinois American Water Company - Champaign(995)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Boil Order Training(4679)	**2/1/2012**	On-line Class	**60**	Regulatory updates, sample collecting, and disinfection. Procedures related to boil orders.

Illinois American Water Company Peoria(1002)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Respiratory Protection and Fit Tests(5695)	**11/7/2012**	Classroom and Hands-on	**180**	
Cut-Off and Ring Saw Operation & Maintenance(6883)	**12/6/2012**	Classroom and Hands-on	**75**	Operation and safety of cut-off or ring saw
Power Grit Saw Operation & Maintenance(6882)	**12/6/2012**	Classroom and Hands-on	**65**	Operation and safety of power grit saw.
Guillotine Saw Operaion & Maintenance(6881)	**12/11/2012**	Classroom and Hands-on	**115**	Operation and safety using a guillotine saw at IL Am Water.
Process Safety Management/Risk Management Plan(7148)	**1/1/2013**	Conference/Seminar	**220**	This course addresses all elements of OSHAs Process Safety Management and EPAs Risk Management Plan as applies to water and wastewater treatment plants that use highly hazardous chemicals including process safety, process hazard analysis, operating procedures, training, contractor safety, management of change, pre-startup safety review, mechanical integrity, non-routine work authorizations, incident investigation, emergency planning and response, compliance audits and RMP submission
National Safety Council Defensive Driving Course(7054)	**1/28/2013**	Conference/Seminar	**360**	Defensive driving techniques to develop crash avoidance behavior and safe driving practices.

Drinking Water Courses for Renewal Training Credit

Laboratory Operating Requirements(7057)	**2/4/2013**	Conference/Seminar	**140**	Testing samples to ensure compliance with drinking water standards.
Using SafeStart to Enhance Plant Operations(7163)	**4/16/2013**	Workshop	**480**	Introduction and Overview Eyes on Task, Mind on Task Line of Fire, Balance/Traction/Grip Rushing, Frustration, Fatigue, Complacency Critical Error Reduction Techniques
Electrical Continuity and Meter Installations(7739)	**10/15/2013**	Classroom and Hands-on	**95**	Topics include inspection of currently installed meters, piping and grounding bonding jumpers, installation procedures for temporary and permanent bonding grounding jumpers, meter removal and installation, determination of service amperage ratings and completion of work orders. Participants will install temporary and permanent bonding grounding jumpers and meters.
Personal Protective Equipment(7901)	**11/11/2013**	Conference/Seminar	**150**	The requirements of Title 29 CFR 1910.132 through 138 and American Water's Personal Protective Equipment Program. This course explains types of personal protective equipment, limitations of use, and requirements of use to operate the treatment plants and distribution facilities to ensure continuity of qualitiy and operation of facilities.
Electrical Continuity - Mains and Services(9714)	**7/14/2015**	Classroom and Hands-on	**240**	This course addreses procedures that must be adhered to in effectively repairing or installing water distribution piping to ensure protection of consumer and continuity of service
Plant Electrical Maintenance Procedures and Worker(9715)	**7/15/2015**	Classroom and Demonstration	**270**	Procedures to maintain water and waste water plant electrical equipment and worker qualification requirements

Illinois Association of Water Pollution Control Operators(109)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
2015 IAWPCO Northeast Regional(9817)	**10/19/2015**	DVD	**45**	Troubleshooting Power Quality
2015 IAWPCO Northeast Regional Conference(9819)	**10/19/2015**	DVD	**45**	Village of Hinkley Case Study
2015 IAWPCO Northwest Regional Conference(9821)	**10/20/2015**	DVD	**45**	WWTP Chemical Usage, Safety & Nutrient Control
2015 IAWPCO Central Regional Conference(9822)	**10/21/2015**	DVD	**45**	Aeration Control Through Ammonia Monitoring
2015 IAWPCO Central Regional Conference(9825)	**10/21/2015**	DVD	**45**	New Coliform Rules
2015 IAWPCO Central Regional Conference(9824)	**10/21/2015**	DVD	**45**	Biosolids, 2015 and Beyond

Drinking Water Courses for Renewal Training Credit

2015 IAWPCO Southern Regional Conference(9826)	10/22/2015	DVD	90	Nutrient Removal Panel Discussion

Illinois Department of Agriculture(309)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Public Pesticide Applicator Training Right-of Way(7706)	1/1/2013	Conference/Seminar	420	Right-of-Way pest control – chemical weed control on noncrop sites such as parking lots, along roads, in access rights-of-way, and in fence lines; water tanks and fences. 2 day course. Credit given only for training, not time spent testing.

Illinois Electric Works/Toshiba International Corp(171)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Understanding Electric Motor Repair(3179)	12/1/2008	Classroom/College	480	JB

Illinois Intstitute of Technology(934)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Water Chemistry(7900)	1/1/2013	Conference/Seminar	2400	All water and wastewater treatment processes relating to the chemical properties involved.

Illinois Municipal League Risk Management Assoc.(259)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Confined Space Entry and Rescue(1041)	3/20/2003	Conference/Seminar	150	1.5 hours of classroom and 1 hour of mock rescue. JLE
Hazard Communication & MSDS(2987)	6/3/2008	Other	60	TL
Control of Hazardous Energy (Lockout/Tagout)(5694)	11/2/2012	On-line Class	60	
Trenching and Shoring(7059)	1/1/2013	Conference/Seminar	60	safety
Bloodborne Pathogens(7217)	3/12/2013	Conference/Seminar	60	Training on diseases, exposures, warning labels, hand washing, PPE, vaccines, exposure incident response & medical records
Bloodborne Pathogens(7328)	6/6/2013	Presentation	45	Bloodborne Pathogens
Control of Hazardous Energy (Lockout/Tagout)(7373)	6/7/2013	Presentation	45	Lockout/Tagout
Confined Space Entry(7506)	7/16/2013	Presentation	60	Confined Space Entry
Hearing Conservation(7687)	9/4/2013	Presentation	60	Hearing Conservation
Fire Extinguisher Safety Training(7731)	9/24/2013	Presentation	45	Fire Extinguisher

Drinking Water Courses for Renewal Training Credit

Illinois Municipal Utilities Association(197)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Backhoe Safety(2391)	11/8/2006	On-line Class	60	JB
Basic Electrical Safety(2513)	2/9/2007	On-line Class	60	JB
Traffic Control and Flagger Safety(2512)	2/9/2007	On-line Class	240	JB
CPR/First Aid/AED(2608)	5/10/2007	On-line Class	240	JB
Fire Safety-Chlorine(3636)	10/5/2009	On-line Class	120	JB/tl
Arc Flash Safety(3945)	6/23/2010	On-line Class	60	JB/tl
Hand Power Tool Safety(3947)	6/23/2010	On-line Class	60	JB/tl
Arc Blast/Arc Flash Protection & High-Voltage Elec(5474)	3/27/2012	Presentation	360	Arc Blast/Arc Flash Protection & High-Voltage Elec
Confined Space Entry(617)	7/25/2012	Operator's Group Meeting	87	Initial approval 4/24/02. How to's on confined spaces. JLE
Emergency Preparedness(732)	7/25/2012	Operator's Group Meeting	120	Initial approval 7/31/02. Preparing for natural disasters(floods). Emergency response procedures. JLE
Hazard Chemical Safety(900)	7/25/2012	Operator's Group Meeting	60	Initial approval 12/10/02. Overview of MSDS and chemical labeling requirements. JLE
Hazard Communication(730)	7/25/2012	Operator's Group Meeting	60	Initial approval 7/31/02. Health hazards in the workplace. MSDS. JLE
Lockout/Tagout(728)	7/25/2012	Operator's Group Meeting	75	Initial approval 7/31/02. Lockout/tagout of electrical equipment. JLE
Personal Protective Equipment(729)	7/25/2012	Operator's Group Meeting	60	Initial approval 7/31/02. Proper procedures for using all types of PPE. JLE
Respiratory Protection(901)	7/25/2012	Operator's Group Meeting	120	Initial approval 12/10/02. Types of respirators, SCBA's, selection and use. JLE
Trenching & Excavation Safety(2794)	7/25/2012	Operator's Group Meeting	60	tl
Trenching and Shoring(759)	7/25/2012	Operator's Group Meeting	120	Initial approval 9/9/02. Laws, regs, procedures and policies for trenching and shoring. JLE
Worksite Protection and Traffic Control(903)	7/25/2012	Operator's Group Meeting	120	Initial approval 12/10/02. Flagging procedures and work zone configuration. JLE
Benefits of the GHS and SDS/Understanding the Data(7671)	9/1/2013	Operator's Group Meeting	120	Relates to OSHA's revised standard for HazCom regarding the new Globally harmonized System (GHS) for the classification and labeling of chemicals.

Drinking Water Courses for Renewal Training Credit

Fire Extinguisher/Fire Safety(8022)	**9/19/2013**	Conference/Seminar	**120**	Initial approval 12/10/02. Life safety, evacuation procedures and portable fire suppression equipement use. Shorter version of IEPA #904.
Benefits of the GHS and SDS/Understanding the Data(8023)	**11/21/2013**	Presentation	**120**	Relates to OSHA's revised standard for HazCom regarding the new Globally harmonized System (GHS) for the classification and labeling of chemicals. Shorter version of 7671 or 8019.
Benefits of the GHS and SDS/Understanding the Data(8019)	**11/21/2013**	Conference/Seminar	**120**	Proper labeling of chemicals and knowing information about GHS

Illinois Public Service Institute(567)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Communication Excellence(9798)	**10/6/2015**	Workshop	**420**	Written CommunicationBusiness EtiquetteMaximizing Social Media

Illinois Rural Water Association(29)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Well and Pump Operation and Maintenance(2602)	**11/2/2012**	Conference/Seminar	**180**	Kishwaukee College Malta IL 1/9/13; Hopedale Comm Center, Hopedale 1/10/12
Rural Development Update(6966)	**2/19/2013**	DVD	**30**	Funding options for PWS
Water Loss Audit Seminar(9066)	**1/1/2015**	Conference/Seminar	**360**	History of water loss, how to use the AWWA M36 manual and AWWA water loss solftware.
EPA Regulatory Updates(9789)	**10/15/2015**	Conference/Seminar	**300**	RTCR, operator certification, Compliance, and regulatory updates
Jar testing, reducing DBP's, and math(9848)	**10/21/2015**	Conference/Seminar	**300**	Jar Testing Dynamics ClassDisinfection By-Products DiscussionMath for the Water Operator
Automatic Hydraulic Leak Detection(9705)	**10/27/2015**	DVD	**45**	A new method of water leak detection using hydraulics
GIS/GPS(9701)	**10/27/2015**	DVD	**60**	how to set up a GIS/GPS mapping project
Power Loss Emergency Case Study(9703)	**10/27/2015**	DVD	**60**	Will cover the real-life emergency that occurred at the City of Rock Falls, IL in February 2014. Will cover the water dept.'s response to the outage of the city's lift stations and its aftermath.
Rural Development Update(9707)	**10/27/2015**	DVD	**30**	Funding Options for Systems
Update on Phosphate Technologies(9702)	**10/27/2015**	DVD	**60**	Uses, treatment, techniques, and updates on the uses of phosphates in the treatment process
Water Line Leaks & Recouping Revenue(9704)	**10/27/2015**	DVD	**45**	How to protect your utility and your customers financial loss during a leak

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Bad Sampling - Bad Results(9710)	**10/28/2015**	DVD	**45**	How to take a proper sample for your lab tests
Identity Theft & Local Utilities(9709)	**10/28/2015**	DVD	**90**	Guidelines for complying with federal and state regulations protecting customers information from identity theft, how to protect confidential information that is necessary to recover unpaid bills
IEPA Updates(9708)	**10/28/2015**	DVD	**60**	Updates on regulations from IEPA
RFID Tags for Marking Infrastructure Assets(9706)	**10/28/2015**	DVD	**90**	new equipment & technology using RFID tags to improve the marking and identification of assets
Stage 2 Disinfectant By Products: What We've Learn(9711)	**10/28/2015**	DVD	**30**	Things we've all learned from this sampling procedure including water systems, regulators & labs
RTCR & Reg. Update(9898)	**11/5/2015**	Conference/Seminar	**300**	Certification updates, General Chemical Safety, RTCR, as well as a look at several changes to Illinois EPA regulations and policies.

Illinois Valley Community College Continuing Education Center(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Water Supply Operation II (Class B)(8205)	**1/1/2014**	Classroom and Hands-on	**900**	Prepares participants for the Class B operator's license examination administered by the IL EPA.
Water Supply Operation I: Class C & Class D(9792)	**8/19/2015**	Conference/Seminar	**2700**	This introductory course on water supply operations prepares operators for the Class C & Class D operator license examinations, which are administered by the Illinois Environmental Protection Agency. The topics include operation and maintenance of water distribution systems, chlorination, fluoridation, drinking water regulations. Additional requirements: One year of water treatment operator experience for Class C and six months experience for Class D.REFERENCES:Water Distribution Systems Operation and Maintenance- Sixth EditionISBN: 978-1-59371-061-3Small Water System Operation and Maintenance- Fifth EditionISBN: 978-1-89371-041-5California State University, Sacramento

Intergovernmental Risk Management Agency(69)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
OSHA 10 Hour(7093)	**2/18/2013**	On-line Class	**600**	Regulatory updates/safety.

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Key Elements for Effective Root Cause Analysis & P(8034)	**12/11/2013**	On-line Class	**120**	Safety; Incident Evaluation; Case History of Titanic; Case Story of Titanic; Applying Root Cause Analysis; Basic Steps in Identifying the Root Causes of a Problem; The Accident Review Board process; Discussion & Evaluation.
Ladder Safety(8035)	**12/11/2013**	On-line Class	**60**	Hazard-Alert Ladders; Ladder Inspection Form; Recognizing Ladder Hazards; Ladder Selection; Ladder Inspection; Ladder Set-Up; Ladder Safety; Ladder Maintenance and Storage: Questions, Quiz, Evaluation.
Electrical Safety(9716)	**7/8/2015**	Conference/Seminar	**120**	OSHA requires employees facing a higher than normal risk of electrical accident to receive Electrical Safety Training. 29 CFR 1910.331 - 1910.335 defines Safety Related Work Practices for both qualified and unqualified workers. This program covers safety-related Work Practices including understanding and recognizing energized and deenergized parts, lockout and tagging, and minimum approach distances. The regulations for handling, inspecting and utilizing electrical equipment will also be covered.
Lock Out/Tag Out(9743)	**7/8/2015**	Conference/Seminar	**60**	Safety
Avoiding Summer Hazards(5341)	**7/15/2015**	Conference/Seminar	**120**	Safety
Back Safety/Ergonomics(5342)	**7/15/2015**	Conference/Seminar	**120**	Safety - demonstrations of ergonomically correct stretches and lifts.
Confined Space Entry Refresher(569)	**7/15/2015**	Conference/Seminar	**120**	Formerly "Confined Space Entry and Rescue" for 3 hrs. Planning, reviewing, and implementing plans. What help is available. JLE
Effective Safety Committees(5343)	**7/15/2015**	Conference/Seminar	**60**	The safety committee plays a critical policy-making, oversight, and general support function in developing and implementing processes to achieve an accident-free workplace. This program explains how to make a safety committee effective without wasting time or effort.For all employees participating on safety committees.Handouts provided.
Fall Protection(1303)	**7/15/2015**	Conference/Seminar	**120**	BST/PC
Fork Lift Safety(3403)	**7/15/2015**	Classroom and Hands-on	**240**	Safety when moving chemicals.JB/tl
GHS/Hazard Communication(5344)	**7/15/2015**	Conference/Seminar	**120**	This training addresses the new changes to the OSHA "Hazard Communication" Standard (29 CFR 1910.1200), aligning with the Globally Harmonized System of classification and Labeling of Chemicals (GHS). It covers:Hazard ClassificationsLabelsSafety Data SheetsFor all employees who have the potential to be exposed to chemical hazards in the workplace.Handouts provided.

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Harassment in the Workplace(5345)	**7/15/2015**	Conference/Seminar	**60**	Harassment charges can devastate an organization, as well as its employees. What's important is how a behavior makes another person feel. A harassment-free workplace can be created by informing all employees of their legal and ethical responsibilities. Learn how to recognize harassment and what you can do to stop it. For all employeesHandouts/ Case Study
Lock-Out/Tag-Out(568)	**7/15/2015**	Classroom and Demonstration	**120**	Company policy and procedures. JLE/PC
Respiratory Protection Overview(5346)	**7/15/2015**	Conference/Seminar	**120**	This training covers:Why respirators may be necessarySteps to be taken prior to wearing a respiratorHow to put on, use, maintain, and store a respirator; andThe limitations and capabilities of various types of respirators A written policy must be in place before scheduling this training.For all employees who either use or may have to use a respirator in the course of their job duties.Handouts provided.
Self Inspection Techniques(1088)	**7/15/2015**	Classroom and Demonstration	**60**	PC
Slips, Trips and Falls(2381)	**7/15/2015**	Conference/Seminar	**60**	First approved 10/19/2006 JB/PCThis course addresses IRMA's #2 workers' compensation claim problem. Emphasis is placed on actions and attitudes and what can be done to prevent slips, trips, and falls.For All EmployeesHandouts/Video
Supervisor Safety Training(1395)	**7/15/2015**	Conference/Seminar	**120**	The supervisor is the link between Management and Employees. This program will cover the supervisor's role, benefits of safety, risk management principles, prevention of employee injuries, hazard identification, supervising safety concepts, hidden costs, OSHA, major loss types and accident investigation. For employees who manage staff below themHandouts provided.
Trench Collapse-Refresher(9717)	**7/15/2015**	Conference/Seminar	**120**	This training session presents a case study of an actual accident inspected and documented by the Occupational Safety and Health Administration (OSHA). The purpose of this training session is to teach and reinforce the importance of working safely in trenches in order to prevent tragic accidents. In particular, it deals with how to identify conditions that could lead to a trench collapse. The intention is to learn from the accident and take steps to prevent a similar accident from changing our lives.For workers and supervisors who work in and around trenchesHandouts provided.

Drinking Water Courses for Renewal Training Credit

Work Zone Safety(2886)	**7/15/2015**	On-line Class	**120**	JBThis program focuses directly on the hazards and situations that workers may face when conducting an activity on or near the roadway. Participants will learn the importance of effective work zone traffic control to wearing the proper equipment.
Fall Protection with Fall Hazard Assessment Report(9744)	**8/5/2015**	Classroom and Demonstration	**180**	This program covers the use of fall protection, the ABC & D's of fall protection: anchorages, body support, connectors, descent and rescue. Also covered are inspection requirements and how to calculate the amount of required clearance and the entities Fall Hazard Assessment report..For all employees who work at or above 4-6 feet and where a hazard exists below the employee.
The Aging Workforce-Let's Work Smarter(9902)	**10/29/2015**	Conference/Seminar	**60**	For the first time in US history there are 4 generations in the workforce at the same time. All have different characteristics and needs to become or maintain a healthy and safe workplace. As the baby boomers age and become more of a health risk to your organization, this session will explore why understanding generational differences are important and how to address some of the most pressing workplace health issues. Attendees will learn:How the Affordable care Act allows and encourages employers to implement wellness programsThe current best practices of public sector organizations in addressing an aging workforceWhat works to engage millennialsCommon barriers of a healthier workforce in the public sector and how to address themWhat progressive health programs may be embraced by the public sector in the future
Unleash Your Inner Tyrant(9900)	**10/29/2015**	Conference/Seminar	**60**	In Unleash Your Inner Tyrant!, Jeff uses his trademark wit to "encourage" you to engage in all the practices of ineffective leaders - including how to create a culture of fear, oppress and demoralize your employees, outsource blame and stand firm in the face of all change - before wrapping up with a serious conversation about the kind of leaders we should all strive to become. Jeff will have you laughing the entire time that you're learning how to become a more effective leader. Objective:You will be able to:•Identify practices of ineffective leaders in order to become a more effective leader

Us Versus Them(9901)	**10/29/2015**	Conference/Seminar	**60**	You've probably listened to other generational speakers in the past. You've probably heard that for the first time in human history there are four distinct generations operating side by side, and that you're supposed to care about all those other people who weren't born within about five years of you. But accommodating other people's needs and ideas is way less fun than ignoring them entirely. Seriously, how can you respect the opinions of people who wear different clothes and listen to different music than you? So get ready for a generational presentation unlike anything you've ever seen. Because while everyone else will encourage you to try to see where your fellow workers are coming from, Jeff Havens will encourage you to pursue your goals at the expense of everyone else's. Life is so much easier when you don't have to worry about accommodating other people's opinions or being successful at things, don't you think? Objectives:You will be able to:• Understand, recognize, and resolve every generational issue facing today's modern workforce• Address 100% of the generational issues that will face you in the next 10-15 years• Learn why everyone wants the different things that they do

ISAWWA(28)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
#2008 Radium Sludge Disposal(9658)	**10/19/2009**	Operator's Group Meeting	**60**	Many northeastern Illinois communities utilize deep sandstone aquifers as a water supply source. Therefore, many communities are managing radium levels in their source water, and consequently in their water and wastewater treatment plant sludge. The Illinois Emergency Management Agency (IEMA) has recently published a proposed rule for the possession and disposal of radium containing sludge and residuals from sewage and water treatment facilities. Based on the testimony presented at the September 30, 2009 Public Hearing for this rule, it would appear the methodology utilized to establish the parameters in the rule are overly conservative while the overall ramifications of this proposed new rule are not fully understood. This new rule likely will affect many communities' radium management approaches on both the water and wastewater side, and likely will cause additional expense to many communities and/or agencies providing water and wastewater service. This webinar will provide a summary of the rulemaking process, tools to help assess the impact on a community, and a discussion of the next steps in the rulemaking process.

Drinking Water Courses for Renewal Training Credit

Filter Inspections and Optimization #2003(5367)	**6/21/2012**	Other	**60**	The use of easily found tools in the typical water treatment plants to inspect and optimize granular gravity filters to prevent future catastrophes and also to assist in the compliance of the interim enhanced surface water treatment rule.
Introduction To Water Conservation #2011(5374)	**6/21/2012**	Other	**60**	Water Conservation is becoming a relevant topic in the Midwest and there is a lot to learn both as a water user and a water industry professional. This introductory presentation includes 50 minutes of content related to basic water conservation principles and practices as well as regional drivers and regulations. The last 10 minutes is saved for question & answer session and discussion on relevant conservation strategies for the local area.
SMALL WATER SYSTEM OPERATION & MAINTENANCE #4004 ((5455)	**6/21/2012**	Video	**1800**	Scope: This video series provides needed training for various operators and managers of small public water systems. Operators have the responsibility of ensuring that safe and pleasant drinking water is delivered to everyone's tap. The information provided in these videos will help operators do their jobs with greater knowledge and efficiency. Managers must see that maintenance, recordkeeping, reporting, public complaints, and budgeting are properly handled. The information provided in these videos will increase background knowledge regarding the system and provide specific training regarding administrative tasks. Owners and governing bodies must understand the needs and provide operators and managers withthe resources to perform their jobs.

Drinking Water Courses for Renewal Training Credit

Water Conservation Ordinance/WaterSense #2031(5392)	**6/21/2012**	Other	**60**	In following its tradition of publishing model ordinances, the Chicago Metropolitan Agency for Planning (CMAP) staff embarked on a process to develop an updated Model Water Conservation Ordinance to provide assistance to communities that wish to promote water conservation initiatives. This effort fulfils one of the many recommendations outlined in the recently approved Northeastern Illinois Water Supply/Demand Plan, the a result of a three-year planning process, facilitated by CMAP, that coordinated a diverse set of stakeholders including government entities, environmental interest groups, academia, and private sector representatives in a 11-county planning area in the northeastern Illinois region.In drafting the model ordinance, staff completed an extensive review of water conservation ordinances and regulations nationwide as well as relevant literature. A panel of experts provided their input to the document during its formative stages. The model ordinance addresses indoor and landscape water use in both the residential and commercial/institutional/industrial sectors with consideration to the latest available technologies and state of the art practices in the field. It serves as a tool that contains model ordinance language, commentary, potential water savings, current examples and resources for further research.Staff also utilized the WaterSense label and performance standards to align many of the flow rates with specific WaterSense products. WaterSense, a US EPA sponsored partnership program, provides a nationally recognized water conservation and efficiency brand that can aid in public outreach and implementation of the ordinance.By adopting the requirements of the proposed ordinance, communities may achieve significant water use reductions while deferring the need for water infrastructure expansion. This webinar will include detailed information about the model ordinance and the role of WaterSense products in its development and future implementation.
Water Conservation Programs for Utilities #2013(5376)	**6/21/2012**	Other	**60**	his presentation will cover best practices in water conservation programs looking across the United States as well as regional and local Illinois water conservation programs. Following the best practices, information will be presented on tips for starting a water conservation program or strengthening an existing program. The standardized approach to water conservation program development as outlined in M52 will also be incorporated into the presentation. The last 10 minutes will be reserved for a question & answer session and discussion on the material presented.

Drinking Water Courses for Renewal Training Credit

#440 Drought Workshop DVD(8020)	**11/5/2012**	Video	**360**	This is a DVD recording of the Drought Workshop held in Elgin, IL on 11/05/12. A one day workshop that looks at the impacts of the 2012 drought on water systems in Illinois. The workshop will focus on the supply and demand balancing act experienced by water suppliers during the current drought conditions. Representatives from ISWS, USGS and IEPA will present rainfall, stream flow and groundwater level trends that compare this drought with previous ones. Water utility representatives will present case studies of how the drought has impacted their systems, both from a demand standpoint and the impacts on supply. Potential solutions to dealing with the effects of the drought conditions will be discussed in the afternoon session.
Hydrants and Pipes Seminar(6824)	**12/5/2012**	On-line Class	**240**	Hydrant repair and maintenance; pipe design, manufacturing process, joints, installation prodedures and hydraulic analysis
Practical Proactive Management of Our Groundwater(6825)	**12/5/2012**	Presentation	**240**	GW topics.
Review & Refresher of Fluoride Dosage Calculations(6835)	**12/6/2012**	Presentation	**60**	
Water Main Corrosion Control w/Cathodic Protection(6836)	**12/6/2012**	Presentation	**60**	
Water Main Rehab w/Cured-in-Place-Pipe: Aqua-Pipe(6837)	**12/6/2012**	Presentation	**60**	
13 Ways Through a Firewall(6872)	**12/12/2012**	Operator's Group Meeting	**60**	Firewalls are a given—everyone assumes that every security posture includes a firewall. But are they really secure? Join us to see 13 ways to break through a firewall. Attacks include: Walking a USB stick past the firewall, phishing attacks, stealing a password, using essential connections to compromise servers, piggy-backing on VPN, split tunneling, firewall vulnerabilities, firewall configuration errors and omissions, forging an IP address, using default password, standing up a wireless access point inside the protected network, and using vendor back-doors. Note: One or two scenarios will be live, others will be screen shots, and some will be discussion only. For each scenario, compensating measures are briefly discussed and compared.

Drinking Water Courses for Renewal Training Credit

Roadmap to Stage 2 Compliance(6873)	**12/12/2012**	On-line Class	**60**	Problem: Recently, the EPA changed its requirements for public water systems to achieve compliance with the Stage 2 Disinfectant and Disinfection Byproducts (DBPs) Rule The new Stage 2 rule strictly limits the amount of disinfectant used by water operators as well as the amount of DBPs allowed in the water system. Subsequently, many compliant systems may become non-compliant due to these rule changes. Most of the recommended approaches to achieve these new standards require costly infrastructure upgrades or changes in the treatment process, yet these options are not feasible for utilities with a limited budget Discussion: Research shows that the majority of water treatment plants treat water to acceptable levels. Proper maintenance of filters, water storage tanks and pipelines is necessary to control chlorine demand and DBP levels. Due to the high cost of infrastructure upgrades necessary to achieve compliance, operators are looking for alternative methods to meeting the new requirements. One such approach is to chemically treat water distribution systems with NSF 60 certified chemicals specifically engineered to remove naturally occurring organic and inorganic deposits from all water treatment infrastructures. By safely removing the scales and films that react with disinfectants, water operators can simultaneously reduce disinfectant demand and DBPs. Thus, water treatment with NSF 60 certified chemicals is a safe, cost-effective alternative to achieving Stage 2 Compliance. In this presentation, examples of successful applications in the US, Canada and Europe will be discussed . Conclusion: The NSF 60 certified chemical approach detailed in this presentation can alleviate the need for large capital expenditures and treatment changes for both surface and ground water treatment plants. Utilities can achieve compliance with the Stage 2 DBP Rules while saving in both capital and operations/maintenance budgets.

Drinking Water Courses for Renewal Training Credit

Security Issues and Best Practices in Water/Wastew(6874)	**12/12/2012**	Operator's Group Meeting	**60**	The security posture of most water/wastewater treatment plants is weak. The main reasons are that they were not designed to be secure against modern attack methodologies. Plant personnel are not properly educated on the "who, what, why, when and how" of facility and system security. Security by obscurity does not work for critical infrastructure. The potential for harm is too significant. Security for water/wastewater plants is minimized, un-funded, and not part of "best practices" thinking. Security is not a core competency of most engineering, system integration and construction companies, nor of the operators and IT personal involved with these plants. A security incident at a water facility has not yet caused the financial burden or societal anxiety that motivates action. We tend to wait and react to incidents as opposed to being predictive and proactive. All infrastructure, including water and wastewater facilities, should be considered a target for any group or individual that may benefit from impacting the availability of the service as well as the confidentiality and integrity of the information and systems contained therein. This presentation will explore the motivation behind and the best practices for an appropriate security posture for a water/wastewater facility. It will look at security policies, vulnerabilities and risk management concerns and opportunities. It will explore the relationship between physical security and information security. Finally it will propose some ideas for developing prudent security policies given the vulnerabilities and risk and suggestions for implementing the appropriate technologies and practices to support the policies, standards and guidelines
Telemetry: A Detailed Look at Telemetry(6870)	**12/12/2012**	On-line Class	**240**	"• Telemetry Technology • Telemetry Components • Tailoring your Telemetry System • Telemetry Security • Troubleshooting a Telemetry System"
Wells, Pumps, Mercury Seal Law & VFD's(6871)	**12/12/2012**	On-line Class	**240**	Topics inlucded will be: various pumps relating to common well & pump related failures/issues and coming into compliance with the new Mercury Seal law as well as VFD’s on well pump applications.
ISAWWA Water Plant Systems Safety Audit/Survey Too(7090)	**1/7/2013**	Other	**60**	Safety, water mains, and disaster-related

Drinking Water Courses for Renewal Training Credit

Ductile Iron Pipe: Design, Manufacturing Process &(8180)	**6/26/2013**	Operator's Group Meeting	**60**	• Design of DIP per AWWA C150 in comparison to alternate materials • Manufacturing process of DIP per AWWA C151 and how it compares to alternate materials • Joints for open cut, trenchless and exposed applications • Linings and coatings • Installation of DIP – Open cut and trenchless applications like HDD and pipe bursting • Hydraulic analysis
Annual Regulatory Update DVD(7745)	**10/9/2013**	Video	**420**	Recorded from annual regulatory session in Elgin Fall 2013.
Engergy Conservation - Basic Electrical Concepts(7967)	**12/5/2013**	Operator's Group Meeting	**300**	The purpose of this course is to acquaint you with the basic concepts of electricity and how to use those concepts to maximize efficiency in your workplace. There are five units in this course. Each unit consists of a PowerPoint presentation, self-tests to check your understanding of the material (ungraded), and a unit exam.
Hazwoper Refresher(7963)	**12/5/2013**	Operator's Group Meeting	**480**	This Internet-based course provides 8 hours of interactive training online for those needing the Hazwoper Refresher certification (29 CFR 1910.120). Topics include exercises on PPE, Regulations, Hazard Recognition, etc. The course consists of an online text, interactive exercises, web links, self-grading quizzes, and final exam.
Hazwoper Refresher For Supervisors(7964)	**12/5/2013**	Conference/Seminar	**480**	This Internet-based course provides eight hours of interactive training online for the annual refresher to the 40-hour Hazardous Wastesite Worker course (29 CFR 1910.120). This course places greater emphasis on supervisory functions and fulfills the OSHA/EPA requirements for supervisors. The Supervisor Refresher is only intended to be taken by those who have already taken the OSHA 8 Hour HAZWOPER Supervisor (Initial) Training.
Lockout/Tagout Awareness Course(7962)	**12/5/2013**	Operator's Group Meeting	**240**	This course presents OSHA's general requirements for controlling hazardous energy during service or maintenance of machines or equipment. It is not intended to replace or to supplement OSHA standards regarding the control of hazardous energy. After taking this course, employers and other interested parties are urged to review the OSHA standards on the control of hazardous energy to gain a complete understanding of the requirements regarding the control of hazardous energy. These standards, as well as other relevant resources, are identified throughout this publication.

Drinking Water Courses for Renewal Training Credit

Warehousing & Powered Industrial Truck Safety(7965)	**12/5/2013**	Operator's Group Meeting	**360**	Public Warehousing and Storage Safety Training Program is an online interactive training program consists of 24 lessons that depict common, unsafe actions and conditions that exist in most warehouses. The topics selected represent the greatest hazards in public warehousing as determined by accident statistics, OSHA violations, OSHA training requirements, with input from warehouse workers, and suggestions from trainers who conduct health and safety training.
Water Distrbibution Systems: Distribution Faciliti(7968)	**12/5/2013**	Operator's Group Meeting	**300**	Using the Internet students will obtain a working knowledge of potable water distribution systems. The specific topics of this course involve the issues of water distribution systems and facilities. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Water Distribution Systems: Storage Systems(7969)	**12/5/2013**	Operator's Group Meeting	**600**	Using the Internet students will obtain a working knowledge of potable water distribution systems. The specific topic of this course is that of water storage facilities. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Water Distribution Systems: System Disinfection(7970)	**12/5/2013**	Operator's Group Meeting	**600**	Using the Internet students will obtain a working knowledge of potable water distribution systems. The specific topic of this course is that of water disinfection systems. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Water Distribution Systems: System O&M(7971)	**12/5/2013**	Operator's Group Meeting	**600**	"Using the Internet students will obtain a working knowledge of potable water distribution systems. The specific topic of this course is that of the needs for proper operations and maintenance of water distribution systems. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.Assessments: This course contains self-tests, lesson qui"
Water Distribution Systems: System Safety(7972)	**12/5/2013**	Operator's Group Meeting	**600**	Using the Internet students will obtain a working knowledge of potable water distribution systems. The specific topic of this course is that of safety issues confronting water distribution systems. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.

Drinking Water Courses for Renewal Training Credit

Water Distribution Systesm: Water Quality(7973)	**12/5/2013**	Operator's Group Meeting	**300**	Using the Internet students will obtain a working knowledge of potable water distribution systems. The specific topic of this course is that of water quality for distribution systems. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Worker Safety For Disaster Response(7966)	**12/5/2013**	Operator's Group Meeting	**360**	This course is designed to provide workers with the knowledge, information, and basic skills to work safely at a disaster site, a natural event or man-caused incident. Those taking this course will learn how to recognize potential hazards and the need for reporting hazards identified on assigned job tasks, helping them to ensure the health and safety for themselves and others. No final exam is required.
Water Treatment - Disinfection #3016(8512)	**6/11/2014**	Operator's Group Meeting	**900**	Using the Internet students will explore the rudiments of water treatment. The topics of this course include general issues operators face when dealing with a verity of disinfection processes. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links. Assessments: This course contains self-tests, lesson quizzes, and a final.
#3055 Worker Safety for Disaster Response(8562)	**6/25/2014**	Operator's Group Meeting	**900**	This course is designed to provide workers with the knowledge, information, and basic skills to work safely at a disaster site, a natural event or man-caused incident. Those taking this course will learn how to recognize potential hazards and the need for reporting hazards identified on assigned job tasks, helping them to ensure the health and safety for themselves and others. No final exam is required.
Water Loss Audit Seminar(8768)	**10/15/2014**	Classroom and Hands-on	**360**	History of water loss, how to use AWWA M36 manual and AWWA Water Loss Software
Detecting & Silencing Leaks DVD(9109)	**12/5/2014**	Video	**15**	Operators learn how to help consumers lfind and use the home's water meter to help determine if there is a leak, and then use the various shutoff valves to appliances and fixtures to isolate the leak. It illustrates how to discover if a toilet is leaking using a dye, and repair a leaking toilet.
Solid Waste Management #3047(9129)	**12/5/2014**	Operator's Group Meeting	**3600**	Using the Internet this course will provide the student with a comprehensive look at solid waste management; combining the aspects of landfill, composting and household hazardous waste operations. This class will meet or exceed most state requirements for the educational components of certification and/or licensing required for solid waste professionals.

Drinking Water Courses for Renewal Training Credit

Solid Waste Management: Composting Operations #304(9130)	**12/5/2014**	Operator's Group Meeting	**1500**	Using the Internet, students will be able to obtain the skills and knowledge to work in a variety of composting facilities. The topics include the Physical Science of Composting, Feedstock, Quality and Classification, Facility Operations, Marketing/End Use and Regulations. The course is enhanced with up-to-date photographs, interactive exercises, and online links. Upon Completion of this Course, participants will: Understand composting of organic materials; Become exposed to the various opportunities for composting agricultural and industrial wastes; and Understand the full range of composting technologies. This course will take approximately 25 hours to complete. Individual times may vary. You must successfully pass the exam at the end of the course to receive CEU credits. This class will meet or exceed most state requirements for the educational components of certification and/or licensing required for solid waste professionals.
Solid Waste Management: Landfill Operations #3049(9131)	**12/5/2014**	Operator's Group Meeting	**1500**	Using the Internet, students will be able to obtain the basic knowledge and skills to be part of a modern landfill operation. This course provides information about the role of the sanitary landfill as a component of an integrated solid waste management system; key functions and associated processes within landfill operations; basics of landfill gas and leachate management and groundwater monitoring; and essentials of equipment selection, cell construction and litter management; and fundamentals of accident prevention. This course will take approximately 25 hours to complete. Individual times may vary. You must successfully pass the exam at the end of the course to receive CEU credits. This class will meet or exceed most state requirements for the educational components of certification and/or licensing required for solid waste professionals.
Wastewater Analysis #3029(9117)	**12/5/2014**	Operator's Group Meeting	**2880**	Using the Internet, students will be introduced to basic laboratory safety and gravimetric, spectrophotometric, electrochemical, titrimetric, and microbiological methods. The units include instruction on the laboratory procedures for microscopic, coliform, BOD5, COD, ammonia, grease and oil, chlorine and solids analysis
Wastewater Collection Systems #3030(9118)	**12/5/2014**	Operator's Group Meeting	**3840**	Using the Internet, students will gain a working knowledge of wastewater collection systems safety procedures, sewer inspection and testing, pipeline cleaning and maintenance, underground repair, lift stations, equipment maintenance, and sewer rehabilitation. Along with reading assignments from the text, the course is enhanced with up-to-date photographs, audio, interactive exercises, and links.

Drinking Water Courses for Renewal Training Credit

Wastewater Treatment - Industrial #3031(9119)	**12/5/2014**	Operator's Group Meeting	**3840**	Using the Internet, students will focus on issues of concern to industrial wastewater treatment facilities. The topics of this course include regulatory requirements; flow measurement; preliminary, physical and chemical treatment; filtration; and treatment of metal streams. Along with reading assignments from the text, the course is augmented with audio, photographs, interactive exercises, and online links.
Wastewater Treatment I #3032(9120)	**12/5/2014**	Operator's Group Meeting	**3840**	Using the Internet, students will explore the rudiments of wastewater treatment. This introductory course includes instruction in water pollution control, preliminary and primary treatment, fixed film processes, and suspended growth systems. Along with reading assignments from the text, the course is enhanced with up-to-date photographs, audio, interactive exercises, and online links.
Wastewater Treatment II #3033(9121)	**12/5/2014**	Operator's Group Meeting	**3840**	Using the Internet, students will focus on issues of concern to wastewater treatment facilities. The topics of this course include activated sludge process control, sludge digestion and solids handling, nitrogen and phosphorous removal, and odor control. Along with reading assignments from the text, the course is augmented with audio, photographs, interactive exercises, and online links.
Wastewater Treatment: Disinfection & Chlorination (9122)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues operators face when disinfecting wastewater. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Wastewater Treatment: Fixed Film Process #3035(9123)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues regarding the trickling filter process when treating wastewater. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Wastewater Treatment: Pollution Control #3036(9124)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues regarding what is meant by the term water pollution, the steps needed to treat it and the math used. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.

Drinking Water Courses for Renewal Training Credit

Wastewater Treatment: Pond Systems #3037(9125)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues regarding use of wastewater ponds as a treatment method. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Wastewater Treatment: Preliminary Treatment #3038(9126)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues regarding the steps in preliminary treatment of wastewater. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Wastewater Treatment: Primary Treatment #3039(9127)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues regarding the steps in primary treatment of wastewater. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Water Treatment: Suspended Growth Systems #3040(9128)	**12/5/2014**	Operator's Group Meeting	**600**	Using the Internet students will explore the rudiments of wastewater treatment. The topics of this course include general issues regarding suspended growth systems. Along with reading assignments from the text, the course is enhanced with audio, up-to-date photographs, interactive exercises, and online links.
Water - Permits & Administration #3007 (formerly I(9674)	**6/24/2015**	Operator's Group Meeting	**960**	Using the Internet students will be able to improve their people skills, operations management, become more familiar with safety issues and responsibilities and the permitting and certification process.

Drinking Water Courses for Renewal Training Credit

Water Distribution System Operation & Maintenance(9360)	**9/23/2015**	Conference/Seminar	**960**	OBJECTIVE: This course is designed to train operators to safely and effectively operate and maintain water distribution systems.SCOPE: This course is designed to train operators in the practical aspects of operating and maintaining water distribution systems, emphasizing safe practices and procedures. Topics include the role and duties of water distribution system operators, procedures for operating and maintaining clear wells and storage tanks, components and characteristics of distribution system facilities, operating and maintaining distribution systems, maintaining water quality in the system, disinfecting new and repaired facilities as well as water delivered to consumers, and techniques for recognizing hazards and developing safe procedures and programs. Operators learn to analyze and solve problems when they occur and perform mathematical calculations commonly associated with operating a distribution system.contents1. The Water Distribution System Operator2. Storage Facilities3. Distribution System Facilities4. Water Quality Considerations in Distribution Systems5. Distribution System Operation and Maintenance6. Disinfection7. Safety8. Distribution System AdministrationTEXTBOOK: Water Distribution System Operation and Maintenance, A Field Study Training Program; 6th Edition
Field Sampling and Analysis – What you need to kno(8895)	**10/12/2015**	Conference/Seminar	**60**	Utilities are implementing expanded monitoring in the water distribution system as well as source water surveillance. Some of the monitoring is in response to increase regulation but most utilities understand that monitoring is a tremendous tool for controlling operation of the system. Frequent monitoring can identify and help correct problems before they become a nuisance or even chronic. Regular monitoring of pH, chlorine residual, turbidity, iron, copper, hardness, alkalinity, lead and many other tests are practical and easily completed with portable instrumentation.Field sampling and analyses can be very useful and accurate if a few simple steps are followed including selection of the proper method and proper measurement tools. Tips for getting good measurements will be discussed including: Proper sampling methods and locations Selecting the proper measurement methods. Use of the proper measurement tools, Overcoming interferences, Proper calibration and use of standards, Proper care of instruments and reagents. Limitations of field methods also will be discussed.

Drinking Water Courses for Renewal Training Credit

Lock Out Tag Out Training(9103)	**10/14/2015**	Conference/Seminar	**240**	This training session will highlight the hazards of not properly securing the work area of stored energy (electrical, pressure, chemical, gravity, mechanical, etc.). The OSHA standard (29CFR 1910.147) will be reviewed in detail with examples of a written program, written machine specific procedures, and a group activity to conduct a LOTO exercise. Discussion will be provided on the equipment available for completing successful LOTO practices. A presentation with video and many pictures will be made to the attendees.
Hands-On Basic Water Quality Testing(9097)	**10/15/2015**	Classroom and Hands-on	**240**	If you have little or no experience in a laboratory or would like to learn how to run chlorine, phosphate, pH, turbidity, hardness, alkalinity, fluoride, iron, and conductivity then this class is for you. Join us for a short lecture and then lots of hands-on lab experience.
Telemetry: A Detailed Look at Telemetry(9098)	**10/20/2015**	Conference/Seminar	**240**	Telemetry Technology• Telemetry Components• Tailoring your Telemetry System• Telemetry Security• Troubleshooting a Telemetry System
Annual Regulatory Update(9099)	**10/22/2015**	Conference/Seminar	**300**	This seminar will cover current and upcoming regulations. Illinois and US EPA representatives will be available to answer questions.
Concrete Pipe: Selection, Installation, Inspectio(8919)	**10/27/2015**	Conference/Seminar	**240**	The training topics would include: Intro to Concrete Pipe, Proper selection of RCP Strength Class, RCP Installation & Inspection and Recent Developments in the Concrete Pipe Technology.
Water/Sewer Plans 101(8863)	**10/29/2015**	Conference/Seminar	**240**	Basic interpretation of water/sewer civil drawings for the water/sewer crew. Including: · A review of typical construction drawings, the legends · What sheets makes up a typical plan set · How to read the legends to understand the drawings – what do all those squiggles mean · A review of the Standard Specifications manual for Illinois
Project Management Workshop(9101)	**11/2/2015**	Conference/Seminar	**960**	This course is designed to provide managers with additional training and skills in project management.
Chlorine Properties, Equipment, Safety & Security(9683)	**11/3/2015**	Classroom and Hands-on	**240**	The program will discuss properties, safety, equipment, PPE, security and some regulatory issues relating to chlorine, including a hands-on demonstration using the "B" repair kit.
Pumps & Pump Maintenance(9673)	**11/4/2015**	Conference/Seminar	**240**	This course will cover how to provide proper preventative maintenance and testing to increase the life of your pumps as well as methods for trouble shooting and repairing pumps.

Drinking Water Courses for Renewal Training Credit

Distribution System O & M - Hydrants, Valves & Wat(9100)	**11/5/2015**	Classroom and Demonstration	**240**	-How to properly install, operate and maintain fire hydrants and valves.-Water Services from Main to Meter: Discuss, Pipe, Saddles, Corporation Stops, Service tubing, Curb Stops, Fittings and typical types of meter installations from the northern region to the southern region of our country
Wastewater Microbiology(8851)	**11/5/2015**	Conference/Seminar	**240**	An interactive class to identify filamentous bacteria. Instruction will include a review of the common wastewater microbiology problems, identification of the various types of filamentous bacteria and a microscopic examination of mixed liquor samples to identify various type of filamentous bacteria. Attendees are encouraged to bring samples from their plants for identification.
Effective Backflow Programs(9102)	**11/17/2015**	Conference/Seminar	**240**	Effective Backflow Programs, IEPA Title 35 - What it says in plain English - Learn how to effectively develop, implement, and enforce an effective cross-connection control program that meets all of the Illinois EPA requirements. Cross-Connection inspections, surveys and record keeping are the three key elements of all effective backflow prevention programs, how does each element relate to the others and how do you move forward from where you are.
HDPE PIPE – An Introduction(9105)	**12/1/2015**	Conference/Seminar	**240**	-What is HDPE pipe-How to join HDPE pipe-How to install HDPE pipe-How to tap HDPE pipe-Application for HDPE pipe-Accountability and Quality Control-Standards & Specification-Fusion Demonstrations
New Water Smart Grid - Meters, Data & Managing Bot(9747)	**12/3/2015**	Conference/Seminar	**240**	-How Water Meter Technology Changing? -AMI Analytics: What Do You Do With All the Data? -Implementation Case Study -Panel Discussion: AMI Technology: Current & Future -DWC Meter Testing Program and Demonstration
Water Operator Exam Refresher for Class A & B(9493)	**12/8/2015**	Conference/Seminar	**720**	This 2-day course will cover the critical area that you need to take and pass your operator A&B certification exam. We will cover laboratory testing, rules & regulations, chemical treatment, MATCH (distribution system, chemical feed, filtration, etc), sampling & operational reporting, among others.
12/16/15 Unleashing the Power of Excel: Pivot Tabl(9837)	**12/16/2015**	Operator's Group Meeting	**60**	This presentation will demonstrate how to make and use pivot tables. In addition, we will show how they can be used in water and wastewater utilities for CIP planning, water quality monitor and reporting, etc.

J & R Supply(657)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Brass Product Training(2563)	4/6/2007	On-line Class	60	JB
Line Tracing and Pipe Locating(2553)	4/3/2014	On-line Class	60	Offered annually.

J.U.L.I.E(78)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
JULIE Inc Excavator Safety Training(6878)	12/14/2012	Conference/Seminar	75	The IL One-Call System, methods of reaching JULIE, policy changes for 2013, the one-call process, the ICC, pipeline safety, Q&A
Northern/Central Illinois Pipeline Association Exc(6880)	12/14/2012	Conference/Seminar	75	JULIE IL One-Call System, policy changes for 2013, the process, the ICC, and pipeline safety.
Southern Illinois Pipeline Association Excavator S(6879)	12/14/2012	Conference/Seminar	75	JULIE IL One-Call System, policy changes for 2013, the process, the ICC, and pipeline safety.
JULIE Remote Ticket Entry Training(7152)	3/19/2013	Conference/Seminar	120	Training on us of Remote Ticket Entry Training and Ticket Search
JULIE Remote Ticket Entry Training - Webinar(7172)	4/3/2013	Operator's Group Meeting	120	Remote Ticket Entry Training by webinar
Staking University / JULIE, Inc Locator Training(9532)	4/28/2015	Classroom and Hands-on	450	Staking University topics covered on buried pipe and cable locator proper use and energizing buried utilities with hands-on training. JULIE, inc review of member detail and notification reports and grid vs polygon notification methods.

Joliet Junior College(68)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Wastewater Treatment Operator Review Class 3 & 4(2949)	1/1/2010	Conference/Seminar	1200	This course number will discontinue as of 12/31/13; please see new course # as of 1/1/14. Course is one semester long and will be allowed 15 hours RTC. 2949 may be used in the 2013-2016 recert cycle; after 7/1/16 use #7949.
Basic Electrical Circuits(848)	5/4/2012	On-line Class	420	For maintenance person with no electrical experience, with one day hands-on, building and testing the most common electrical circuits used in residential and industrial applications, also for maint personnel who are looking for cross-training in the field of electricity.
Basic Pipefitting Skills(656)	5/4/2012	Conference/Seminar	840	Types of pipe, fittings, reading prints, cutting pipe. JB
Corrosion Control For Distribution Systems(2125)	5/4/2012	Conference/Seminar	180	Identifies the corrosion process and proven measures to reduce its negative impact on metallic piping and associated fittings.
Digital Multimeter Certification(779)	5/4/2012	Classroom/College	420	Understanding and troubleshooting with electrical fluke meter. JB

Drinking Water Courses for Renewal Training Credit

Electrical Diagrams and Circuits(1265)	**5/4/2012**	Classroom/College	**420**	For electricians (or maintenance personnel) who work with electical/electronic drawings and circuits. Circuit requirements, logic and applications are covered. Includes converting standard ladder (line) diagrams into PLC diagrams. Troubleshooting.
Electrical Practices Industrial Employee Safety(381)	**5/4/2012**	Classroom/College	**420**	Trains those who are responsible for operating and maintaining 600 volts or less electrical equipment on the requirements of the Electricity Act, Regs and Codes of Practice. Simplifies the OSHA Electrical Standard and criteria and specifically addresses safe work practices to be used duing the operation and maintenance of electrical equipment.
Electrical Principles and Practices(1026)	**5/4/2012**	Classroom and Hands-on	**420**	For electrically inexperienced maintenance personnel who need to be trained, or cross-trained, in working with (or around) electrical circuits.
How Pumps Work(1269)	**5/4/2012**	Classroom/College	**420**	Overview of pump purposes, types and operation..
Meter Maintenance/Automated Reading(2126)	**5/4/2012**	Conference/Seminar	**180**	Basic maintenance, automated meter reading systems such as touch reading and radio frequency reading systems; causes of wear and tear, technology solutions, more.
Motors and Motor Control Circuits(931)	**5/4/2012**	Classroom/College	**840**	Single and multi-phase motors, connections and troubleshooting. JB
New System Inspection (WTR 897)(766)	**5/4/2012**	Conference/Seminar	**180**	New system procedures, construction, record keeping, testing and reporting. JLE
Operating Reports & Applied Math (WTR 898)(767)	**5/4/2012**	Conference/Seminar	**180**	All aspects of IEPA record keeping and reporting. Mathematics for chemical calculations and well pumping. JLE
Pneumatics Level I(1266)	**5/4/2012**	Classroom/College	**840**	JB
Pneumatics Level II(1267)	**5/4/2012**	Classroom/College	**420**	JB
SCADA Systems (WTR 903)(1444)	**5/4/2012**	Conference/Seminar	**180**	Technologies and components that comprise SCADA systems, history, control and reporting, etc. JB
Shaft Alignment(1268)	**5/4/2012**	Classroom/College	**840**	Shaft Alignment
Understanding AC/DC Motors(963)	**5/4/2012**	Classroom/College	**840**	JB
Variable Frequency Drive Setup and Troubleshooting(1250)	**5/4/2012**	Classroom/College	**840**	JB
Wastewater Treatment Operator Review Course 1 & 2(2914)	**5/4/2012**	Conference/Seminar	**1140**	Wastewater course.
Water Storage & Distribution (WTR 906)(5114)	**5/4/2012**	DVD	**180**	Overview of potable water storage and distribution.

Drinking Water Courses for Renewal Training Credit

Water Storage Tank Maintenance (WTR 902)(1443)	5/4/2012	Conference/Seminar	180	Basics of water storage tank inspection and assessment for repairs. JB
Water Treatment Operator Review Course Class A & B(918)	5/4/2012	Conference/Seminar	2700	Prepares the student to take the IEPA Class A & B.
Water Treatment Operator Review Course Class C & D(472)	5/4/2012	Conference/Seminar	2700	Prepares the student to take the IEPA Class C & D.
Wastewater Treatment Operator Review Class 1 & 2 W(8899)	1/1/2015	Conference/Seminar	2700	This advanced course is designed to prepare the student to take the IEPA Class 1 & 2 wastwater operator license examinations. It is intended to assist the student in developing and understanding of primary, secondary, and tertiary treatment systems; physical, chemical and biological treatment systems; disinfection, bio-solids treatment and handling. This course is non-college credit but is equivalent to 3 semester hours or 45 CEUs. Texts: Operation of Wastewater Treatment Plants, Vol. II 6th Ed.; ERTC - Class I & II Short School Text.
Wastewater Treatment Operator Review Class 3 & 4 W(8900)	1/1/2015	Conference/Seminar	2700	This introductory course is designed to prepare the student to take the IEPA Class 3 & 4 Wastewater operator license exams. It is intended to assist the student in developing an understanding of primary, secondary, and tertiary systems; physical, and biological treatment, systems; disinfection, bio-solids treatment and handling. Texts: Operation of Wastewater Treatment Plants, Vol. I, 7th Ed.; ERTC - Class III & IV Short School Text. Non college credit but equivalent to a 3 hr semester course.

Kane County Water Association(83)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Antenna Installation on water Towers(9896)	10/15/2015	Presentation	60	The advantages and disadvantages of antenna installation on your water storage tank will be reviewed. How to obtain a satisfactory antenna installation will be discussed with specific suggestions.

Kentucky Department for Environmental Protection(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Surface Water Certification School(6898)	12/11/2012	Conference/Seminar	1080	Plant operator, water chemistry, coagulation, flocculation, sedimentation, alternative treatment processes, filtration, disinfection, sampling, iron and manganese, taste and odor control, fluoridation, stabilization, cross connections.

Drinking Water Courses for Renewal Training Credit

Kupferle(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Collecting Quality Water Samples: New Guidelines I(9700)	7/6/2015	Classroom and Demonstration	60	Ensuring quality bacteriological samples is important to ensure safe drinking water for the public. This presentation will provide a brief history of potable water, as well as, information about total coliforms and why they are used in sampling. Additionally, new information and language about dedicated sampling stations from the Revised Total Coliform Rule (2013) will be presented. Finally, an effective eight-step “best practice” guideline to collecting quality samples will also be included. The presentation is approximately one hour in length and a four-page summary booklet will be provided to each attendee.
The Dead End Danger Zone: How Uncirculating Water (9699)	7/6/2015	Classroom and Demonstration	60	Keeping water safe for consumers is the primary responsibility for metropolitan and rural water utilities.Based on the Eliminate Dead-End Water article (Opflow November 2011), this presentation will provide information to participants about the two main health threats that old, un-circulating water on dead-end water mains pose to consumers. Information on EPA guidelines for residual level and the new Stage 2 DBP rule will be shared. Additionally, tools on identifying hazardous dead-ends, as well as, solutions to address the threats will be presented. The presentation is approximately one hour in length and a four-page summary booklet will be provided to each attendee.

Lake County Dept. of Transportation(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Flagger Training(9839)	10/23/2015	Presentation	255	Emergency/Disaster Related

Lake County Public Works(33)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Field Sampling(8079)	1/1/2014	Classroom and Hands-on	120	Provides the operator with the basic skills for collection of bacteriological and chemical samples; reviews proper use of routine field equipment; reviews documentation used for sample collection; discusses required follow-up after a coliform failure; reviews applicable IEPA regs and emergency protocol.

Drinking Water Courses for Renewal Training Credit

Fundamentals of Iron Removal Treatment(8078)	1/1/2014	Classroom and Hands-on	180	Provides basic knowledge required to efficiently operate an Iron Removal Filtration System: water source; filtration; pretreatment; media; post treatment; backwash.

Lee Jensen Sales Company(279)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Power Utility - Cutting DI Pipe(3808)	3/9/2010	Presentation	120	JB
Excavation Standard/Competent Person Training(992)	8/31/2012	Conference/Seminar	360	Repair of water mains following rules set forth by OSHA. JLE

M.E. Simpson Company, Inc.(180)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Using AWWA's Water Audit Methods(6945)	1/22/2013	Operator's Group Meeting	60	Use of the AWWA Water Audit software as a tool to reduce water loss in a distribution system.

McWane Ductile Utility Sales(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
The Total Cost Equation(9274)	2/19/2015	Operator's Group Meeting	60	Water mains and service connections

Metropolitan Industries, Inc.(781)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Advances in SCADA Technology(3286)	2/19/2009	Presentation	180	JB
Residential Commercial Plumbing Applications(4648)	2/8/2012	Conference/Seminar	240	Sump and sewage pump systems, battery back-ups, water boosters, domestic hot water systems, radiant heat, solar hot water, ultra high-efficiency boilers and other plumbing-related accessories in residential of small commercial settings.
Municipal - How To Get The Most From Your SCADA Sy(4647)	7/1/2012	Classroom and Hands-on	240	Supervisory Control and Data Acquisition Systems; SCADA and communication methods (phone, cell, radio, spread spec, fiber optic , etc.), software, hardware, security and surveillance, report generating.
A Discussion of Pressure Reducing Valves(6947)	1/22/2013	Classroom and Hands-on	240	Application, operation, maint and repair of pressure reducing valves. Hands-on demos will give attendees the ability to operate, design and Tshoot pressure reducing valves in a supervised and controlled environment.

Drinking Water Courses for Renewal Training Credit

Infrastructure Improvements - ABCs of Pump Systems(8790)	9/17/2014	Conference/Seminar	240	Maintenance and improvement of operations at pumping stations. This presentation includes an in-depth discussion of how certain equipment (pumps, controls and accessories) can be added to improve your present water pumping systems, existing storm water or sanitary lift stations, standby power needs, chemical feed systems and/or water and wastewater process equipment. This class is ideal for personnel involved in the regular operation and/or maintenance of water and wastewater collection, treatment and distribution systems.
Control and Pump Repair 101(5007)	6/17/2015	Classroom and Hands-on	270	Half-day hands-on training program designed for operators, foreman and others responsible for pumping station equipment and controls. Focuses on proper maint and repair of pumps and control equipment. Topics discussed will include: safety, record-keeping, basic control panel circuitry, data acquisition and basic troubleshooting. Participants review the working of a basic control panel and disassemble a large pump.
Municipal - Infastructure Upgrades & Improvements(4650)	6/17/2015	Presentation	240	Improvements to water pumping systems, storm water or sanitary lift stations including stand-by power needs, chemical feed systems, and water process treatment equipment, regular operation and maint of water treatment and dist.
Municipal- Infrastructure Upgrades & Improvements(9659)	6/17/2015	Classroom and Hands-on	60	Improvements to water pumping systems, storm water or sanitary lift stations including stand-by power needs, chemical feed systems, and water process treatment equipment, regular operation and maint of water treatment and dist.
Retofitting Your SCADA w/the Latest Technologies(5500)	6/17/2015	Classroom and Hands-on	60	Hands-on class on a variety of topics related to Supervisory Control and Data Acquisition Systems. Discussions and live demos include communication methods, software, hardware requirements and options, incorporating security into your system report generating and more.

Mid Central Water Pollution Control Operators(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Mid Central(9835)	10/22/2015	Operator's Group Meeting	120	InstrumentationPlant Design

Midstate Water Operators(93)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Importance of Network Security(9853)	**11/2/2015**	Operator's Group Meeting	**180**	Why there is security, how it effects you, how to remediated, and steps to take to look at for working installations, and planning for the future. Folepi's Festival Building, East Peoria, IL.
November 2015 Mid State Water Operators Meeting(9847)	**11/2/2015**	Operator's Group Meeting	**120**	RTC Rule; IEPA Round Up; Rockwell presentation. 2200 E. Washington, East Peoria, IL 61611

Midwest Safety and Training Solutions(531)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Confined Space Entry and Rescue(2000)	**10/18/2012**	Classroom and Hands-on	**180**	2 hrs classroom, written test and 1 hr hand-on. Film and Power Point.
Shoring Excavation Competent Person Training(4297)	**10/18/2012**	Classroom and Demonstration	**240**	Includes 2.5 hrs classroom and written test and 1.5 hrs excavating and installing shoring protection.
American Heart First Aid, CPR, AED(7042)	**1/29/2013**	Conference/Seminar	**180**	Safety, EM/Disaster-Related
Industrial Truck Operation (Fork Lift)(8290)	**4/10/2014**	Classroom and Hands-on	**150**	Fork lift operation and inspection; safety.
Lock Out Tag Out(8300)	**4/10/2014**	Conference/Seminar	**60**	One hour power pointe presentation for lock out tag out refresher.

Midwest Safety Services(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Confined Space Training(6899)	**12/1/2012**	Conference/Seminar	**480**	Safety, air monitoring, rescue procedures, PPE, etc.

Midwest Water Group, Inc.(801)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Maintaining Water Quality in the Distribution Syst(6930)	**1/4/2013**	On-line Class	**120**	Residual management in the distribution system and factors that degrade residual and create issues with DBPs and bacterial pathogen management; how chlorine and chloramines react with water; DBP Stage II; tank maintenance and turn-over.
Sampling Station Practices(7798)	**11/1/2013**	Conference/Seminar	**60**	Review of current methods of collecting bacteriological sampling and demonstrate how to use sampling stations properly in distribution systems to ensure quality samples. Diffenent materials (stainless steel and brass), winter sample collection practices and maintenance will be covered.

Drinking Water Courses for Renewal Training Credit

Stormwater Infiltration into Water(7734)	**11/5/2013**	Conference/Seminar	**60**	Covers the definitions of inflow and infiltration, how to recognize it, what the effects of it are and including excess WWTP capacity, shortened life of water valves and meters, etc. Will discuss the classification standards for inspection of Inflow and infiltration and various ways to prevent and mitigate excess stormwater inflow/infiltration into the water and wastewater system.

Missouri Water/Wastewater(152)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Plant Safety & Emergency Planning(5061)	**5/22/2012**	Conference/Seminar	**390**	Water-WW Plant Safety: chlorine safety; lockout-tagout; confined spaces; types of emergencies to plan for; common emergencies; documentation; communication; training.
Math Skills for Water and WW Licensing Exams(4463)	**10/26/2012**	Conference/Seminar	**360**	Formerly called "Math Refresher" - conversion factors, calc areas and volumes, pressure in pipes and tanks, temp conversions, chemicl feed problems, basic formulas, sample problems
Excavate Safely: Trenching, Shoring & Confined Spa(9260)	**2/17/2015**	Conference/Seminar	**420**	Regulatory updates; safety; emergency and/or disaster related.
Day 1 Certification Prep Course: The ABCs & 123s o(9354)	**3/16/2015**	Conference/Seminar	**330**	Public health, water quality, groundwater, surface water treatment, chemistry.
Day 2 Certification Prep Course: The ABCs & 123s o(9355)	**3/16/2015**	Conference/Seminar	**390**	Math, public health, protecting water quality, water treatment, cross connection/backflow.
Jar Testing & More for Water & Wastewater(9602)	**5/18/2015**	Conference/Seminar	**360**	Math, coagulation, chemical feed, sample collection, pumps, water mains and storage.
Jar Testing & Other Water Topics(9603)	**5/18/2015**	Conference/Seminar	**390**	Chemical feed, sample collecting, coagulation, water mains/service connections, filtration, asset management, jar testing.
Rules, Regs & Revelations!(9601)	**5/18/2015**	Operator's Group Meeting	**360**	Backflow, inspections, diseases. To be given Statewide.
Operation, Troubleshooting & Preventative Maint of(9642)	**6/4/2015**	Conference/Seminar	**420**	Operation, Troubleshooting & Preventative Maint of VFDs
Math Review(9644)	**6/5/2015**	Operator's Group Meeting	**180**	Math review
Flow Meters, SCADA and Hands-On Electrical(9648)	**6/8/2015**	Operator's Group Meeting	**420**	Flow Meters, SCADA and Hands-On Electrical
Math Skills for Water & Wastewater(9738)	**7/31/2015**	Conference/Seminar	**210**	Math skills, conversions factors, pumpage problems, area and volumes, pressure tanks, pipelines, hydrants, static and flow.
Wells & Water System Management(9843)	**9/30/2015**	Operator's Group Meeting	**330**	Small water systems, aquifers and water quality, operation and management.

Drinking Water Courses for Renewal Training Credit

Excavation Trenching & Shoring/Cross Connection Tr(9833)	**11/5/2015**	Conference/Seminar	**390**	Backflow, regs, safety, emergency and disaster. 21 South Webb Street, Webb City, MO 64870

Montana University System - Water Center(226)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Virtual System Explorer 2006(8369)	**1/1/2014**	Operator's Group Meeting	**300**	Simulates small water system operations for workshop presentations on set-top DVD players and tracks user progress as a computer-based DVD. Users learn the basics of system operation, as well as how to recognize system deficiencies, perform a security risk assessment, and improve the financial and management capacity of a system. The three systems featured in this program are an untreated ground water system, a treated ground water system, and a surface water system.
Customer Water Conservation Programs(9654)	**6/15/2015**	Operator's Group Meeting	**60**	CD for small public water systems titled "Saving Water and Energy in Small Water Systems." The CD contains four 45-minute training modules. These cover customer water conservation programs, energy management for small water systems, alternative energy sources and water accounting -- audits and leak detection. Each presentation explains the topic's importance, steps to take to save money, water and/or energy, pertinent laws and regulations and an extensive resource list for more information. Each module also presents one or more case studies highlighting the experiences of small systems. These modules are designed to be presented by trainers in a classroom or workshop setting, although system operators may benefit from self-study. CDs are being distributed to state drinking-water administrators and technical-assistance organizations. Additional CDs are available from the National Environmental Services Center. Call (800) 624-8301 and ask for product #DWCDTR29. The modules and associated resource files can also be downloaded from the Montana Water Center website.

Drinking Water Courses for Renewal Training Credit

Energy Management for Small Water Systems(9655)	**6/15/2015**	Operator's Group Meeting	**45**	CD for small public water systems titled "Saving Water and Energy in Small Water Systems." The CD contains four 45-minute training modules. These cover customer water conservation programs, energy management for small water systems, alternative energy sources and water accounting -- audits and leak detection. Each presentation explains the topic's importance, steps to take to save money, water and/or energy, pertinent laws and regulations and an extensive resource list for more information. Each module also presents one or more case studies highlighting the experiences of small systems. These modules are designed to be presented by trainers in a classroom or workshop setting, although system operators may benefit from self-study. CDs are being distributed to state drinking-water administrators and technical-assistance organizations. Additional CDs are available from the National Environmental Services Center. Call (800) 624-8301 and ask for product #DWCDTR29. The modules and associated resource files can also be downloaded from the Montana Water Center website.

Mueller Company(77)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Mueller School(221)	**2/2/2001**	Conference/Seminar	**60**	Hydrant and valve maintenance. 3 parts to technical session. Worth 3 contact hours if attended all. (JLE)
Mueller Van(2788)	**1/29/2008**	Presentation	**360**	TL/PC
Hydrant & Valve Op, Maint, and Troubleshooting(220)	**10/18/2012**	Conference/Seminar	**120**	Hydrant & Valve Maintenance. Drilling & tapping procedures, ductile iron & PVC pipe. Dates of training may vary. (JLE)

Municipal H2O(1030)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
EPA Risk Management Program - Internal Auditing(5558)	**10/26/2012**	Workshop	**240**	Workship designed to help water and ww operators understand requirements of EPA risk management program regulations. The workshop provides instructions on conducting internal compliance audits of their Risk Management Plan.

Drinking Water Courses for Renewal Training Credit

National Rural Water(381)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Managing Water Quality in Distribution Tanks(8200)	4/24/2014	Operator's Group Meeting	60	Whether its mixing, piping or displacing, the need to improve the quality and age of the water in your distribution system is a challenge to the entire industry. This webinar is designed to give the participant a unique perspective on how this can be accomplished by looking at it from the viewpoint of a tank contractor whether during initial construction or for retrofitting existing tanks.

National Safety Council(270)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Flagger Training(951)	1/23/2003	Other	240	Appropriate PPE and flagging procedures. JLE

National Technology Transfer, Inc.(38)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Centrifugal Pumps(651)	4/11/2012	Presentation	1440	How pumps work, what causes problems and solutions.
Fundamentals of Programmable Logic Controllers(927)	4/11/2012	Classroom and Hands-on	1260	Understanding PLCs: Programmable Logic Controllers. Hands-on.
High Voltage Electrical Safety(647)	4/11/2012	Presentation	960	Safety training for operators and maintenance.
Hydraulic Training & System Troubleshooting(928)	4/11/2012	Classroom and Hands-on	1800	Knowledge of all basic hydraulic components, schematics, and troubleshooting skills. Hands-on.
Instrumentation & Process Control(648)	4/11/2012	Classroom and Hands-on	1350	Update on the use of process controls.
Mechanical Drives(650)	4/11/2012	Classroom and Hands-on	1350	Mechanical machinery.
Troubleshooting Electrical Control Circuits(649)	4/11/2012	Classroom and Hands-on	1350	Troubleshooting industrial motor control circuits.
Variable Frequency Drives(1302)	4/11/2012	Classroom and Hands-on	1350	Basic concepts of motor/drive systems, including: power transmission relationships, motor load types and applications, electrical principles; types, operation, setup and maint of a VFD, energy saving opportunities. Over half of this class is hands-on.
NFPA 70E/Arc Flash Electrical Safety 2015 Edition(9694)	6/18/2015	Conference/Seminar	960	2-day seminar meets safety-training requirements for employees bound by OSHA rule 1910:331-335.
Basics of Industrial Electricity with Troubleshoot(9696)	6/22/2015	Classroom and Hands-on	2250	Hands-on training in electricity. Hours based upon a 5-day course.

NFPA 70E/Arc Flash Elec Safety for Power Gen, Dist(9695)	6/22/2015	Conference/Seminar	960	2-Day On-Site instruction. Review OSHA-specific requirements to work safety and efficiently for working near high-voltage electrical systems. Covers the mandates under OSHA 1910.269, including the requirements to be deemed a Qualified Worker.

Never Gall(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Fastener Applications: Keeping Stainless Steel Fas(8807)	10/7/2014	Presentation	60	0-15min Introduction of ways that stainless steel fasteners are and are not used. •Why stainless galls/seizes •What actually occurs and why •past methods to prevent 16-30min Different applications for different grades of stainless •mportance of getting the correct stainless for application •hings that effect grades of stainless •Ways of reducing future costs associated with the use of stainless fasteners 31-45min Methods of eliminating galling •Ways to speed installation, reduce construction time •Ways of easing Handling and care •mproving safety with coatings 46-60min Interactive demonstration galling prevention •Attendees participate in torqueing fasteners •Question and answer period

North Iowa Area Community College(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Collection System Preventive Maintenance(8670)	6/10/2014	Conference/Seminar	240	PeopleService Refresher Training held at NIACC 5-6 sessions per year. Chemical Feeding; Calculations; Pumps; Safety.
Safety Refresher(8671)	6/11/2014	Conference/Seminar	480	Safety issues.

North Shore Sanitary District(978)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
LOCK OUT TAG OUT(8461)	1/21/2014	Conference/Seminar	60	TO PROTECT EMPLOYEES FROM INJURY DUE TO ELECTRICAL SHOCK OR UNPLANED OPS OF EQUIPMENT.

Drinking Water Courses for Renewal Training Credit

RESPRITORY PROTECTION PROGRAM TRAINING(8459)	2/18/2014	Conference/Seminar	60	to insure all employees are familiar with proper use of districts respiratory protection program
CHEMICAL HANDLING(8457)	3/18/2014	Conference/Seminar	60	to insure all employees are familiar with use and handling of chemicals used at location
CONFINED SPACE TRAINING(8455)	4/15/2014	Classroom and Hands-on	60	to insure all employees are familiar with NSSD confined space entry program.
VEHICLE SAFETY,PROPER LIFTING AND TOOL USAGE(8444)	5/20/2014	Conference/Seminar	60	to insure all employees are familiar with proper vehicle safety practices
Personal Protective Gear/Equipment and Hot/Severe(8445)	6/17/2014	Conference/Seminar	60	to insure all employees are familiar with proper PPE
FIRST AID PROCEDURES AND PERSONAL HYGIENE(8463)	7/15/2014	Conference/Seminar	60	TO ESTABLISH PROPER BASIC FIRST AIR PROCEEDURES ANS WELL AS PROMOTING GOOD PERSONAL HYGIENE
FIRE EXTIGUISHER TRAINING(8464)	8/19/2014	Classroom and Hands-on	60	TO INSURE PROPER USE OF FIRE EXTIGUISHER
Ladder Safety & Building Hoists(8446)	9/16/2014	Conference/Seminar	60	to insure all employees are familiar with proper and safe use of ladders scaffold and building hoists.
Forklifts, Tractors, Skid Steer & Snow Plowing/Col(8447)	10/21/2014	Conference/Seminar	60	to insure all employees are familiar with safe operation of forklifts,tractors and skid steers
RIGHT TO KNOW TRAINING(8462)	11/18/2014	Conference/Seminar	60	EXPLAIN WHAT A SDS ,PROPER LABELING OF CONTAINERS AND PROPER PPE ARE
Accident Avoidance and Review of the Year in Safet(8595)	12/16/2014	Conference/Seminar	60	Includes a discussion of accidents, training and safety record of the Plant and District).

Northeastern Illinois Public Safety Training Acad(348)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Competent Person(1419)	1/16/2004	Conference/Seminar	480	OSHA 1926.650 through .652

Northern Central Illinois Pipeline Association (NIPA)(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
NIPA Excavator Breakfast(6928)	1/4/2013	On-line Class	120	Regultory updates, safety issues (JULIE), emergency and disaster-related issues.

Occupational Safety and Health Administration-OSHA(170)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Construction Safety and Health(533)	2/28/2002	Other	600	Safe precedures in work place and stations.

Drinking Water Courses for Renewal Training Credit

Occupational Training & Supply, Inc(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Hazardous Materials Refresher(9851)	10/16/2015	Conference/Seminar	480	This course satisfies OSHA's annual Refresher training requirements for any individual working on a hazardous waste site

OmniSite(931)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
OmniSite Service Training(4360)	11/8/2012	Classroom and Hands-on	420	Demonstration and training on how to install a web-based cellular alarm monitor and data collector designed for drinking water and waste water treatment. AR

Paradigm Liaison Services(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Pipeline Awareness for Excavator Operations(7126)	2/27/2013	Operator's Group Meeting	120	Pipeline safety and best practices for safe digging. Damage prevention and updates to State's One Call Law.

Pioneer Industrial Corporation(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Water Treatment Reliability Seminar(9899)	11/17/2015	Conference/Seminar	420	TIMED TRAINING AGENDA8:00 am - 10:00amMark Guenther – Proper Lubrication Techniques and Effects on Bearing Life10:00 am – 10:15amBreak10:15 am – 12:00Bill Birk – Mechanical Seal Reliability and the Benefits for Your Plant12:00 – 1:00pm Lunch1:00pm – 3:00pmMark Guenther – Proper Techniques for Packing, Gasketing and Bolting. 3:00pm – 3:15pmBreak3:15pm – 4:30pmJim Sproul – Specialty Coatings – Increasing the Life of Plant Assets in Heavily Corrosive/Erosive Environments

Precision Systems(1036)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Scadata-Pac User Training(5737)	11/7/2012	Classroom and Hands-on	450	Use of the Scadata ssytem and how it can be used to the benefit of the municipality. Topics include max the efficiency of connected systems, generating IL EPA reports, alarm notifications/setpoints, and others.

Drinking Water Courses for Renewal Training Credit

Safety & Training Consulting, Inc.(892)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Backhoe Safe Operations(5708)	11/7/2012	Conference/Seminar	90	
Bloodborne Pathogens(5705)	11/7/2012	Conference/Seminar	90	
Chlorine Handling & Safety(5707)	11/7/2012	Conference/Seminar	90	
Confined Space Entry(5697)	11/7/2012	Conference/Seminar	90	
Defensive Driving for NSC(5700)	11/7/2012	Conference/Seminar	90	
Fall Protection(5702)	11/7/2012	Conference/Seminar	90	
Fire Safety & Extinguisher Use(5698)	11/7/2012	Conference/Seminar	90	
First Aid/CPR/AED(4067)	11/7/2012	Classroom/College	90	JB
Forklift Training(5699)	11/7/2012	Conference/Seminar	90	
Lockout/Tagout(5703)	11/7/2012	Conference/Seminar	90	
Office Ergonomics(5704)	11/7/2012	Conference/Seminar	90	
Pole Top & Bucket Truck Rescue for Elect Line Crew(5706)	11/7/2012	Conference/Seminar	90	
Trenching & Excavation Safety(4068)	11/7/2012	Classroom/College	90	JB
Work Zone Flagger(5701)	11/7/2012	Conference/Seminar	90	
Hearing Protection(6912)	12/27/2012	Conference/Seminar	90	safety
Respiratory Protection(6913)	12/27/2012	Conference/Seminar	90	safety
Basic Electrical Safety(6916)	12/27/2013	Conference/Seminar	90	safety
Hazardous Chemical Safety(6915)	12/27/2013	Conference/Seminar	90	safety
Ladder Safety(6914)	12/27/2013	Conference/Seminar	90	safety

Sensus North America(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Waterworks Workshop(6960)	1/18/2013	DVD	60	Water conservation and smart water networks.

Staking University(326)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Locate Certification Seminar(9804)	8/26/2015	Classroom and Hands-on	480	Safety, locating of underground utilities

Stanley Hydraulic Tools(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
How to Use Hydraulic Tools to Make Your Job Safer (9562)	5/1/2015	Classroom and Hands-on	60	Using tools to increase safety and productivity; pumps; water mains and or service connections.

Start Group(489)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Respiratory Protection(7149)	3/21/2013	Classroom and Hands-on	120	Donning respirator, how to sanitize, changing filter & air

Suburban Laboratories(536)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Compliance Analysis Using EPA Methods(9165)	1/20/2015	Classroom and Demonstration	60	Full lab tour and introduction for water operators to learn how certain compliance analyses are performed using EPA Methods.

SunCoast Learning Systems, Inc.(1028)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Advanced Math(5540)	10/19/2012	Operator's Group Meeting	600	Math for DW and WW operators. For 10 hrs only as submitted by the vendor (MO credits 16 hrs).
Applied Confined Space Safety(5541)	10/19/2012	Operator's Group Meeting	300	Safety for DW and WW operators.
Basic Enviornmental Chemistry(5542)	10/19/2012	Operator's Group Meeting	600	Water chemistry course.
Basic Water Works(5543)	10/19/2012	Operator's Group Meeting	600	Operation of a water utility, water characteristics, water quality standards, GW and wells, surface water production, distribution
Chemical Feed Systems & Pump Calibrations(5544)	10/19/2012	Operator's Group Meeting	300	Treatment plant operations using chemical feed pumps
Chlorinator Systems & Chemical Handling(5545)	10/19/2012	Operator's Group Meeting	600	Chlorine and its use in PWS
Corrosion Control Treatment Optimization(5546)	10/19/2012	Operator's Group Meeting	600	Basics of OCCT optimization
Customer Service Inspection & Cross-Connection(5547)	10/19/2012	Operator's Group Meeting	300	5-6 hours leads to preparation for inspector certifications
Dissolved Air Flotation(5688)	10/19/2012	Operator's Group Meeting	600	History, advantages, disadvantages, operation of a DAF system
Drinking Water Filtration A-Z(5548)	10/19/2012	Operator's Group Meeting	600	
Maintaining Water Quality in Distribution Systems(5549)	10/19/2012	Workshop	600	Microbial and DBP, water quality in commercial buildings, troubleshooting water quality complaints

Drinking Water Courses for Renewal Training Credit

Math Basics(5550)	10/19/2012	Operator's Group Meeting	300	
Membrane Treatment of Wastewater(5689)	10/19/2012	Operator's Group Meeting	600	Membranes in WW treatment
Operator Handbook(5551)	10/19/2012	Operator's Group Meeting	600	Advanced course for an experienced operator in SW treatment facility. Recommended to take Surface Water Prod 1 prior to this course. Source water protection, elements of optimization, opt techniques and alternative disinfectants, taste and odor control, special treatment processes, SCADA, lab methods.
Primary Sludge Fermentation(5690)	10/19/2012	Operator's Group Meeting	600	Obtaining the volatile fatty acids (VFA) needed to improve biological nurtrient removal processes directly from the raw wastewater, plant records.
Pump and Motor Maintenance(5552)	10/19/2012	Operator's Group Meeting	600	Info on developing a maint program for electric motor and motor controls, mechanics and hydraulics, etc.
Surface Water Production 1(5553)	10/19/2012	Operator's Group Meeting	600	Intro to field of surface water treatment.
Surface Water Production 2(5554)	10/19/2012	Operator's Group Meeting	600	Source water management, opt techniques for treatment units and alternative disinfectants
Valve and Hydrant Maintenance(5538)	10/19/2012	Operator's Group Meeting	300	Valve maint., classification of valves and their purpose, backflow prevention devices, a brief history of the hydrant.
Wastewater Collection(5686)	10/19/2012	Operator's Group Meeting	600	Wastewater collection operation and maint
Wastewater Treatment(5687)	10/19/2012	Operator's Group Meeting	600	Primary sedimentation, activated sludge, fixed-film processes, pond systems
Water Utility Safety(5539)	10/19/2012	Operator's Group Meeting	600	Safety

Swanson Flo Systems(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Automatic Control Valve Operator Instruction(6902)	12/19/2012	Classroom and Hands-on	240	Water loss reduction through pressure management.

Target Solutions(453)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Combustible and Flammable Liquids(1699)	1/31/2012	Operator's Group Meeting	60	Combustible and Flammable Liquids
Compressed Gas Safety(1700)	1/31/2012	Operator's Group Meeting	60	safety
Confined Space Entry(1701)	1/31/2012	Operator's Group Meeting	60	safety
Disinfection Basics(3010)	1/31/2012	Operator's Group Meeting	60	Disinfection Basics

Drinking Water Courses for Renewal Training Credit

Distribution System Materials & Equipment(3012)	1/31/2012	Operator's Group Meeting	60	Distribution System Materials & Equipment
Emergency Response to Terrorism #1,2,3,4(1703)	1/31/2012	Operator's Group Meeting	240	1 RTC each, 4 modules. Must complete all 4 modules to get credit for 4 hours.
Fall Protection(3015)	1/31/2012	Operator's Group Meeting	60	Fall Protection
Filtration Basics(3016)	1/31/2012	Operator's Group Meeting	60	Filtration basics
Fire Extinguisher Safety(1704)	1/31/2012	Operator's Group Meeting	60	safety
Fire Prevention Safety(3014)	1/31/2012	Operator's Group Meeting	60	safety
General Contruction Safety(3018)	1/31/2012	Operator's Group Meeting	60	safety
Hand and Power Tool Safety(1707)	1/31/2012	Operator's Group Meeting	60	safety
HazMat Spill Prevention & Control(3019)	1/31/2012	Operator's Group Meeting	60	safety
HazMat Transportation(3020)	1/31/2012	Operator's Group Meeting	60	safety
Hydraulics(3022)	1/31/2012	Operator's Group Meeting	60	safety
Incindent Investigation(3023)	1/31/2012	Operator's Group Meeting	60	safety
Industrial Ergonomics(3024)	1/31/2012	Operator's Group Meeting	60	Industrial Ergonomics
Ladder & Scaffolding Safety(3026)	1/31/2012	Operator's Group Meeting	60	safety
Laser Safety(3027)	1/31/2012	Operator's Group Meeting	60	safety
Lead Awareness(1708)	1/31/2012	Operator's Group Meeting	60	safety
Lockout/Tagout(1709)	1/31/2012	Operator's Group Meeting	60	safety
Low Voltage Electrical Safety(1710)	1/31/2012	Operator's Group Meeting	60	safety
Machine Guarding(1711)	1/31/2012	Operator's Group Meeting	60	Machine Guarding
Maintenance on Pumps, Motors & Circuits(3028)	1/31/2012	Operator's Group Meeting	60	Maintenance on Pumps, Motors & Circuits
Mathematics Basics(3030)	1/31/2012	Operator's Group Meeting	60	Mathematics Basics
Personal Protective Equipment(1713)	1/31/2012	Operator's Group Meeting	60	Personal Protective Equipment
Respiratory Protection(1714)	1/31/2012	Operator's Group Meeting	60	Respiratory Protection
Risk Assessment Analysis(1715)	1/31/2012	Operator's Group Meeting	60	Risk Assessment Analysis
Slips, Trips & Falls(3033)	1/31/2012	Operator's Group Meeting	60	Slips, Trips & Falls
Trenching and Shoring(1716)	1/31/2012	Operator's Group Meeting	60	Trenching and Shoring

Drinking Water Courses for Renewal Training Credit

Water Industry Ground Water Treatment(4673)	1/31/2012	Operator's Group Meeting	60	Ground water, including its abundance, it relation to the hydrologic cycle, and its various uses by PWS, various regs related to GW treatment by PWS and disinfection and chlorination processes, different constituents that can occur in GW and their Corresponsing treatment strategies.
Water Main Installation(3034)	1/31/2012	Operator's Group Meeting	60	Water Main Installation
Welding Safety(3035)	1/31/2012	Operator's Group Meeting	60	Welding Safety
Water Industry Corrosion Control(5178)	5/22/2012	Operator's Group Meeting	60	Self-paced online training, with review exercises and case studies to reinforce the course content. 11 learning modules with a 10-question exam.
Water Industry Principles of Debt Collections(5179)	5/22/2012	Operator's Group Meeting	60	Self-paced online training, with review exercises and case studies to reinforce the course content. 10 learning modules with a 10-question exam.
Hazard Communication(7705)	9/25/2013	Conference/Seminar	60	In March 2012 OSHA revised its Hazaard Communication Standard to require the use of new labeling elements and the use of a standardized format for Safety Data Sheets.

Technical Learning College(111)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Distribution Foreman CEU Course(4675)	1/31/2011	Workshop	2400	Storage, pumps, sample collecting, safety, emergency or disaster related, reverse osmosis, disinfection.
Arsenic(1196)	1/31/2012	Workshop	900	Arsenic
Backflow Awareness(415)	1/31/2012	Workshop	600	Review of cross-connection and backflow prevention principles, hydraulic concepts, Pascal's Law and state laws regarding backflow prevention requirements.
Bacteriological Diseases(2508)	1/31/2012	Workshop	960	Typhoid, E. coli, Cholerae, Hepatitis, Giardia lamblia, crypto, etc. JB
Bacteriological Sampling(4244)	1/31/2012	Workshop	240	Bacteriological Sampling
Basic Plumbing(4270)	1/31/2012	Workshop	480	Water distribution plumbing; piping, valves, backflow prevention, water quality, and hydraulic fundamentals. (AER)
Distribution 303 CEU Course(4674)	1/31/2012	Workshop	1440	Distribution, pumps, disinfection, emergency/disaster related, safety.
Distribution 404 CEU Course(4607)	1/31/2012	Workshop	2160	Water distribution and delivery methods; backflow and cross connection; disinfection processes; pumps, motors and hydraulics; waterborne diseases, membrane filtration processes and hard water; water quality concerns associated with water treatment; groundwater production and well drilling; safety concerns.

Drinking Water Courses for Renewal Training Credit

Distribution Operations CEU Course(4171)	**1/31/2012**	Workshop	**960**	Distribution Operations CEU Course
Groundwater Production CEU Course(302)	**1/31/2012**	Workshop	**1800**	Groundwater Production CEU Course
Hydraulic Principles CEU Course(4245)	**1/31/2012**	Workshop	**480**	Hydraulic Principles CEU Course
Laboratory Safety CEU Course(770)	**1/31/2012**	Workshop	**600**	Laboratory chemical safety rule or 29 CFR 1910.1450. JLE
Modern Disinfection CEU Course(4160)	**1/31/2012**	Workshop	**1200**	Reg updates, chemical feeding, storage, sample collecting, disinfection,.
Pipe-Fitting CEU Course(4188)	**1/31/2012**	Workshop	**480**	Pipe-Fitting CEU Course
Pumping Principles CEU Course(2509)	**1/31/2012**	Workshop	**960**	Pumps
Pumps and Motors(4359)	**1/31/2012**	Workshop	**1200**	Pumps
Surface Water Production(4172)	**1/31/2012**	Workshop	**960**	Reg updates, coagulation, filtration, chemical feeding, pumps, storage, sample collecting.
Valve Operation and System Design CEU Course(2916)	**1/31/2012**	Workshop	**960**	water mains/service connections
Valves and Controls(2510)	**1/31/2012**	Workshop	**360**	Valves and Controls
Water and Wastewater Sampling CEU Course(304)	**1/31/2012**	Workshop	**300**	Water/wastewater sampling techniques and fimiliarization of CWA/SWDA and general EPA rules concerning sampling and preservation. Because course covers both areas only granting 2.5 hours of credit instead of the 5 requested.
Water Mains and Service Connections(4246)	**1/31/2012**	Workshop	**600**	Reg udate, sample collecting, water mains & service connections, EM or disaster related.
Water Monitoring(4271)	**1/31/2012**	Workshop	**480**	Review of USEPA regs relating to proper water sampling, water sample preservation, laboratory operations, reporting, MCLs and microbiological concerns. (AER)
Water Treatment 303 CEU Course(4676)	**1/31/2012**	Workshop	**1440**	Reg updates, coagulation, reverse osmosis, pathogen removal/inactivation, filtration, chemical feeding/pumps, sample collecting.
Water Treatment 404 Course(4608)	**1/31/2012**	Workshop	**2160**	Water treatment; chemicals; membrane filtration processes and hard water; water production processes; water quality concerns with treatment; disinfection; pumps, motors and hydraulics, backflow and cross-connection; waterborne diseases.

Drinking Water Courses for Renewal Training Credit

Water Treatment CEU Course(331)	**1/31/2012**	Workshop	**600**	Water treatment fundamentals; filtration, chlorine treatment processes, safety, water chemistry, water sources and water quality issues. Revised - worth 40 RTCs 9-17-03. (JB). Water Treatment Fundamentals; homeland security, water treatment, SDWA rules, water production, water quality, chlorine, wells and pumps, backflow, water distribution. Revised - worth 40 RTCs 3-2-11 (AER)
Chlorine & Disinfection CEU Course(2117)	**2/7/2012**	Workshop	**1800**	Fundamentals of water disinfection.
Confined Space CEU Course(1195)	**2/7/2012**	Workshop	**1200**	Confined space familiarization, atmospheric monitoring, hazard identification, and advanced rule application and competency.
Cross-Connection ID CEU Course(4198)	**2/7/2012**	Workshop	**360**	First approved 1/4/11. Review of various cross connection, backflow and plumbing-related concerns and hydraulic principles.
Distribution Advanced CEU Course(4197)	**2/7/2012**	Workshop	**1500**	First approved 1/4/11. Review of water distribution systems, groundwater production components and related GW mining, disinfection, valve and related components, safety and hydraulic principles.
Groundwater Production CEU Course(1161)	**2/7/2012**	Workshop	**900**	Pumps and motors, chlorination, water quality, groundwater production. JLE
SDWA Rules and Regulations CEU Course(303)	**2/7/2012**	Workshop	**600**	Water distribution, well drillers, pump installers, water treatment operators.
Utility Counter-Terrorism CEU Course(774)	**2/7/2012**	Workshop	**1800**	Reduce vulnerability, safety precautions, terrorism definitions, incidents and indicators. JLE
Water Treatment Process Control(2724)	**2/7/2012**	Workshop	**480**	Water treatment and filter operation, hydraulic fundamentals, rules of SDWA. Objectives to rovide a better undertanding of SDWA regs, terminology, water quality parameters.
Waterbourne Diseases CEU Course(1893)	**2/7/2012**	Workshop	**2400**	Review of commonly found water and wastewater diseases, symptoms, and identification techniques. Covers federal rules concerning water and wastwater sampling techniques, waterborne disease control, general water quality operations and definitions, disease sypmptoms, disease diagnosis, history, susceptibility and disease sources.
Wellfield Operations CEU Course(4054)	**2/7/2012**	Workshop	**1800**	First approved 10/13/10. A detailed explanation of groundwater (GW) production and GW mining along with a detailed understanding of pumps and motors. Other topics include water treatment and distribution of GW.

Drinking Water Courses for Renewal Training Credit

Wet Lab Procedures CEU Course(2862)	**2/7/2012**	Workshop	**1440**	First approved 2/22/08. Reviews commonly found water and wastewater diseases, symptoms and ID techniques, sampling techniques, waterborne disease identification ND control, general water quality operations and definitions, disease diagnosis, history, etc.
Disinfection Basics(4693)	**2/8/2012**	Conference/Seminar	**1800**	Water disinfection, halogens, alternative disinfection processes, identification of chlorines uses, understanding biological monitoring.
Chemical Handling(2725)	**3/22/2012**	Workshop	**600**	Chemical Handling
Competent Person(4861)	**3/22/2012**	Workshop	**600**	Safety
Groundwater Protection(4863)	**3/22/2012**	Workshop	**300**	Groundwater Protection
Point-of-Use Water Treatment(534)	**3/22/2012**	Workshop	**600**	Review of different point-of-use water treatment devices and methods. Basic chemistry and water fundamentals. (JLE)
Water Quality(3096)	**3/22/2012**	Workshop	**960**	Water Quality
Water Treatment Fundamentals(4864)	**3/22/2012**	Workshop	**2400**	Water Treatment Fundamentals
Water Treatment System Survey(4865)	**3/22/2012**	Workshop	**2400**	Water Treatment System Survey
Water Treatment Utilization(4187)	**3/22/2012**	Workshop	**1500**	Water Treatment Utilization
Chemical Contaminants 201(5693)	**11/2/2012**	Workshop	**960**	IOC, VOC, SOC; sample collection
Hazard Communication*(771)	**11/15/2012**	Workshop	**600**	HazCom rule or the Right to Know Law. JLE
Metalloids(6724)	**11/15/2012**	Workshop	**360**	Arsenic, boron, silicon, germanium, antimony and tellurium - metalloids and priority pollutants.
Pump Primer I(6774)	**11/29/2012**	Workshop	**480**	Review of various hydraulic principles and basic pumping foundations to properly understand the operation and function of primary water/wastewater-related pumps and equipment.
Pump Primer II(6775)	**11/29/2012**	Workshop	**480**	Review of various hydraulic principles and basic pumping foundations to properly understand the operation and function of primary water/wastewater-related pumps and equipment.
Pump Primer III(6776)	**11/29/2012**	Workshop	**360**	Reviews various pumping and motoring principles and gives an understanding of the operation and lifting of water with electricity.
Distribution Primer 1(6838)	**12/5/2012**	Computer Based Training	**480**	
Distribution Primer 2(6839)	**12/5/2012**	Computer Based Training	**480**	
Distribution Primer 3(6840)	**12/5/2012**	Computer Based Training	**480**	
Distribution Primer 4(6841)	**12/5/2012**	Computer Based Training	**360**	

Drinking Water Courses for Renewal Training Credit

Distribution Primer 5(6842)	**12/5/2012**	Computer Based Training	**360**	
Storage Facilities(7790)	**11/7/2013**	Workshop	**300**	This short CEU course will cover water storage facilities and basic maintenance and operational concerns including the EPA lead reduction Act requirements.
Valves and Fittings(7791)	**11/7/2013**	Workshop	**960**	This course will cover the new lead reduction requirements of the Safe Drinking Water Act and general water distribution and hydraulic principles. This course will cover the EPA Reduction of Lead in Drinking Water Rule and various distribution pipe installation materials, methods and disinfection procedures.
Water Treatment 202(7929)	**12/6/2013**	Computer Based Training	**720**	This is a 12 contact hour training course that covers conventional water treatment. This course covers the water treatment process from raw water to finished water ready for delivery. It covers floccuation, coaguation, filtration and chlorination along with water quality sampling and waterborne pathogen idetification.
Water Disitribution 202(7930)	**12/7/2013**	Workshop	**720**	This CEU course will focus upon the essentials of operating a water distribution system and provide 12 training contact hours upon completion. This course will start with the EPA rules concerning distribution, sampling and the new low brass requirements and go to the chlorination process, pathogen destruction and related waterborne diseases prevent, to cross-connection control and backflow prevention and finishing with valves, water mains, service connection and hydraulic principles.
Floculation and Coagulation(8146)	**2/17/2014**	Workshop	**976**	This CEU course will cover conventional water treatment and will provide 16 contact hours upon completion. Groundwater and surface water contain both dissolved and suspended particles. Coagulation and flocculation are used to separate the suspended solids portion from the water.

Drinking Water Courses for Renewal Training Credit

Basic Concrete(9264)	**2/10/2015**	Operator's Group Meeting	**120**	The target audience for this course is the person who works in the field and has the need or task of working with concrete or cement in their daily operations. Course Objective: To provide two hours of continuing education training in understanding the fundamentals of cement or concrete products, types, purposes, slump, additives and finishing. Course Focus This distance based CEU course will cover concrete basics, workability, concrete slump test, curing, making concrete, and pouring or building with concrete
Water Chemistry(9265)	**2/10/2015**	Operator's Group Meeting	**840**	This 14 hour distance learning CEU training course will examine various general aspects of commonly found conventional water/wastewater chemistry procedures which are utilized for proper examination of common found contaminants or used water chemicals. This course was designed to provide continuing education credit to water and/ or wastewater treatment operators. Course Purpose The main purpose of this course is to provide continuing education in understanding various water related laboratory procedures utilized in determining various water quality-water chemistry related concerns and MCL determinations.
pH Fundamentals(9271)	**2/19/2015**	Operator's Group Meeting	**60**	A review of pH primarily relating to water and wastewater sampling. This course will cover the fundamentals of pH, measurement procedures, alkalinity, acids and bases.
Basic Chemistry(9487)	**3/31/2015**	Conference/Seminar	**300**	Basic chemistry principles
Basic Welding(9486)	**3/31/2015**	Conference/Seminar	**360**	Basic welding procedures, metal joining principles and welding operation safety, fire prevention, general fire principles/reactions, Right-to-Know and OSHA fire regulations.

Travelers(729)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Flagger Certification(3243)	1/30/2009	Other	180	JB/TL/PC Re-approved 12/5/12

U.S. Environmental Protection Agency Water Security Division(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Resilience Resources Webinar(9895)	11/10/2015	Operator's Group Meeting	60	Free USEPA webinar. The Water Security Division of the Office of Ground Water and Drinking Water is hosting a webinar on free preparedness tools for drinking water and wastewater utilties. This webinar will feature short. Water Quality Surveillance and Response Systems (SRS). Water/Wastewater All-Hazards Bootcamp Training. Public Awareness Toolkit. Power Resiliency for Water Utilities. The webinar will benefit water utility operators and managers, state and tribal primacy agencies, drinking water and wastewater utility stakeholders, and water utility partners and associations. CEUs will be available for participating states.

Underground Solutions, Inc.(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Flowguard Underground Solutions Capabilities Prese(7087)	2/17/2013	DVD	60	water mains and service connections
Fusible PVC Underground Solutions Capabilites Pres(7088)	2/17/2013	Conference/Seminar	60	Water mains and service connections

United Rentals(751)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Confined Space Training(2985)	2/8/2012	Presentation	360	Requirements of OSHA Standard 1910.146. Also offered an an online course (separate ID).
Confined Space Training(4692)	2/8/2012	Operator's Group Meeting	360	Requirements of OSHA Standard 1910.146. Also offered as classrooms/conferences/seminars (separate ID).
Excavation Safety for Competent Person Training(2984)	2/8/2012	Presentation	360	Requirements of the OSHA Standard 1926 Subpart P. Also offered as an online course (separate coure ID).
Excavation Safety for Competent Person Training(4691)	2/8/2012	Operator's Group Meeting	360	Requirements of the OSHA Standard 1926 Subpart P. Also offered as classroom/conference/seminar (separate coure ID).

US EPA(525)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Decentralized High-Rate Wastewater Treatment of Pe(9343)	10/27/2015	Operator's Group Meeting	60	Wastewater
Treatability Databases, Cost Models, and Other Too(9344)	11/24/2015	Operator's Group Meeting	60	Treatability Databases, Cost Models, and Other Tools for Water Systems
Reduction of Lead in Drinking Water(9345)	12/15/2015	Operator's Group Meeting	60	Reduction of Lead in Drinking Water

US EPA Water Security Division(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
EPA Water/WW Utility All-Hazards Boot Camp: EM Pla(9513)	7/1/2015	Operator's Group Meeting	1	COMING SOON - THIS COURSE STILL IN PRODUCTION The Boot Camp Training explains why and how to implement a comprehensive all-hazards program for a water or wastewater utility. Specifically, participants will walk through the various processes and steps that are involved with an all-hazards program related to prevention and mitigation, preparedness, response, and recovery. Participants also are provided with additional resources throughout the training that can later be used in developing and/or implementing a plan.

Utility Service Group(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Well Maintenance(9836)	11/12/2015	Presentation	60	This course will provide an overview of various well renovation & maintenance techniques, as well as the procurement models available to owners for these services.

VanDevanter Engineering(255)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Basic Control Panel Training(1307)	11/27/2012	Conference/Seminar	210	Basic control panel training for water and WW treatment equipment and pumping systems.

Walters Environmental Consulting(530)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Motor Controllers(2557)	3/30/2007	On-line Class	360	Improve efficiency of your motors and how to replace them. 4/30/15 at Merrillville Comfort Suites
Basic Electricity(2576)	4/11/2007	On-line Class	360	4/23/15 at Indianapolis Wingate; 4/28/15 at Fort Wayne Quality Inn; 4/29/15 at Merrillville Comfort Suites

Drinking Water Courses for Renewal Training Credit

Coagulation and Flocculation(2574)	4/11/2007	On-line Class	360	3/4/15 at Fort Wayne Quality Inn; 4/14/15 at Merrillville Comfort Suites; 4/21/15 at Indianapolis Wingate.
Lab Analysis(1998)	4/11/2007	On-line Class	360	3/10/15 at Merrillville Comfort Suites
Disinfection(2874)	3/6/2008	On-line Class	360	6/2/15 at Merrillville Comfort Suites; 6/3/15 at Indianapolis Wingate Inn
Treatment Problem Solving(2877)	3/6/2008	Conference/Seminar	360	4/16/15 at Elkhart Comfort Suites; 6/10/15 at Merrillville Comfort Suites; 6/12/15 at Indianapolis Wingate.
Package Plant Operations(9375)	3/3/2015	Conference/Seminar	360	Fix and prevent common problems with activated sludge package plant systems including loss of solids, ammonia removal, bulking, foaming, and poor disinfection.
Improving Pump Performance(9371)	3/5/2015	Conference/Seminar	360	Keep pumps running efficiently. 3/5/15 at Elkhart Comfort Suites
Metals Treatment(9373)	3/6/2015	Conference/Seminar	360	Metals hydroxide precipitation with caustic, lime, or magnesium hydroxide; chelation; co-precipitation, metals sulfide precip, cyanide destruction, hex chrome reduction, ORP, polymers, clarification, and solids handling.
R.O. and Ion Exchange(9380)	3/11/2015	Conference/Seminar	360	Ultrafiltration, reverse osmosis, ion exchange, and activated carbon.
Wastewater Math(9377)	3/17/2015	Conference/Seminar	360	Prepare for the math portion of wastewater exams and is also good basic review of treatment math.
Wastewater Review(9378)	3/18/2015	Conference/Seminar	720	Prepare for wastewater exams.
Practical Process Control(9374)	3/26/2015	Conference/Seminar	360	Determining wasting rates, fixing bulking and foaming problems, and improving ammonia removal.
Water Chemistry(9379)	5/12/2015	Conference/Seminar	360	Fundamentals of water chemistry. 5/125/15 at Merrillville Comfort Suites; 5/14/15 at Indianapolis Wingate.
Treatment of Oils(9372)	5/13/2015	Conference/Seminar	360	Emulsion breaking, oil water separators, grease traps, dissolved air flotation, ultrafiltration, centrifuges, and oil and grease testing.
Sampling and Flow Measurement(9376)	6/9/2015	Conference/Seminar	360	Learn the proper techniques to take samples and how the different type of flow meters work.

WAPRO INC(0)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:
Inline Gravity Check Valves(9647)	6/9/2015	Conference/Seminar	60	Storm water flood control and sewer back-up prevention with case studies including Dayton, Ohio and Miami Beach.

Water Products Company(73)

Course Name and ID Number	Effective Date	Course Format	Total Approved Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Day of Enlightenment(1449)	1/28/2004	On-line Class	180	Water meter mechanics, reading, hydrant repair and maintenance, water delivery systms, installation, etc. Re-approved on 4/21/15. pc

West Chicago, City of(527)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Operator Basics Training(7206)	4/16/2013	Computer Based Training	780	Self Directed CD Rom

Willing Water Works(46)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Locating and Equipment(9176)	10/22/2015	Operator's Group Meeting	120	locating and equipment

Woodard & Curran Inc.(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Confined Space Entry Training(7775)	10/14/2013	Classroom and Hands-on	300	Confined space, hazards, duties and qualifications, rescue and EM services, safe entry, permits, ventilation, retrieval equipment, non-entry rescue, alternate entry, hands on of calibration of air monitors, and set up equipment with entry simulation. Test required and must pass. No partial credit.
Qualified Electrical Worker Training(7774)	10/14/2013	Classroom and Hands-on	360	Electrical qualifications; hands-on testing of Arc rated tools; digital multi-meters; hands-on testing of digital multi-meters; electrical work practices. This is a refresher trainer held every 3 years at Monmouth IL Public Works. Course test and passing grade required for credit.

Wunderlich-Malec(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
SSWWA Meeting Sept 8, 2014 Wunderlich - Malec(8769)	9/18/2014	Operator's Group Meeting	60	System Integration of MCCs, VFDs, and RVSS, motor starting techniques.

Xylem Water Solutions(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:
Centrifugal Pump Education Class(7091)	5/1/2013	On-line Class	360	Pumps

Zarathom(0)

Total Approved

Course Name and ID Number	Effective Date	Course Format	Minutes	Description:

Drinking Water Courses for Renewal Training Credit

Aeration(9854)	**9/29/2015**	Operator's Group Meeting	**60**	Course will describe the aeration process associated with water treatment, constituents removed through aeration, types of aerators, water quality, operations, testing, safety, and record keeping.
Bacteriological Sampling(9856)	**9/29/2015**	Operator's Group Meeting	**60**	Course provides the operator with an overview of sampling procedures, rules and regulations, and quality assurance and quality control of a sample from the field through the final laboratory analysis.
Bacteriological Sampling Regulations(9855)	**9/29/2015**	Operator's Group Meeting	**60**	Course provides the operator of a history of bacteriological sampling regulations, and understanding of how they apply, and the requirements and steps necessary if notifications are required in the event of violations.